CFD-Z110/Z120/Z130

SERVICE MANUAL

Photo : CFD-Z130

US Model
Canadian Model
AEP Model
UK Model
CFD-Z110/Z120/Z130

Central and South America Model
CFD-Z110/Z120

Australian Model
CFD-Z110

Model Name Using Similar Mechanism	CD Section	NEW
	Tape Section	NEW
CD Mechanism Type		KSM-213CAM/C1NP
Optical Pick-up Type		KSS-213C
Tape Transport Mechanism Type		MF-311

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 3.2-ohm loads, both channel driven from 150 - 10,000 Hz; rated 2 W per channel-minimum RMS power, with no more than 10 % total harmonic distortion in AC operation. (US MODEL)

CD player section

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length: 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
2
Frequency response
20 - 20,000 Hz +1/-2 dB
Wow and flutter
Below measurable limit

Radio section

Frequency range

FM :
87.6 – 108MHz (US, Canadian, Australian, Central and South America model)
87.6 – 107MHz (AEP, UK model)
87.5 – 108MHz (Italian model)
65 – 108MHz (East European model)

AM :
530 – 1,710kHz (US, Canadian, Central and South America model)
531 – 1,602kHz (AEP, UK, East European model)
526.5 – 1,606.5kHz (Italian model)
530 – 1,605kHz (Australian model)

IF
FM : 10.7MHz
AM : 455kHz

Aerials
FM : Telescopic aerial
AM : Built-in ferrite bar aerial

Cassette-corder section

Recording system
4-track 2 channel stereo
Fast winding time
Approx. 115 s (sec.) with Sony cassette C-60
Frequency response
TYPE I (normal): 70 - 10,000 Hz

General

Speaker
Full range: 10 cm dia., 3.2 ohms, cone type (2)
Tweeter: 2cm (2)
Outputs
Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones
Power output (excluding US model)
2.3 W + 2.3 W (3.2 ohms at 10 % harmonic distortion in DC operation)
Power requirements
For CD radio cassette-corder:
230 V AC, 50 Hz (AEP, UK, Italian, Australian, East European model)
120 V AC, 60 Hz (US, Canadian, Central and South America model)
9 V DC, 6 size D (R20) batteries
For remote controller (*CFD-Z120/Z130 only*):
3 V DC, 2 size AA (R6) batteries
Power consumption
AC 20 W

Battery life
For CD radio cassette-corder:

FM recording
Sony R20P: approx. 13.5 h
Sony alkaline LR20: approx. 19 h
Tape playback
Sony R20P: approx. 7.5 h
Sony alkaline LR20: approx. 12 h
CD playback
Sony R20P: approx. 2.5 h
Sony alkaline LR20: approx. 4.5 h

Dimensions
Approx. 520 × 253 × 256 mm (w/h/d)
(20 ½ × 10 × 10 ⅛ inches) (incl. projecting parts)
Mass
Approx. 5.7 kg (12 lb. 9 oz) (incl. batteries)
Supplied accessory
AC power cord (1)
Remote controller (1) (*CFD-Z120/Z130 only*)

Design and specifications are subject to change without notice.

CD RADIO CASSETTE -CORDER

MICROFILM

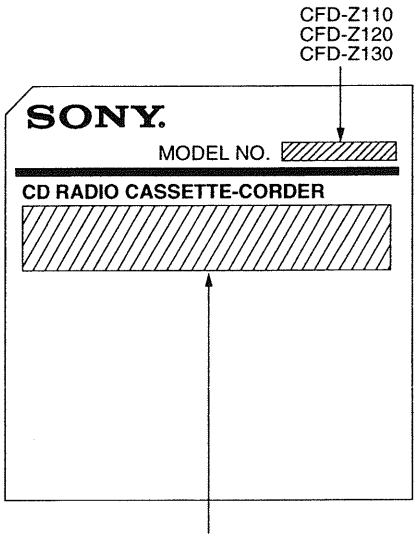
SONY®

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

MODEL IDENTIFICATION
– Model Number Label –



US, Canadian,Central & South America model : AC 120V~60Hz
AEP, UK, Italian, Australian,East European model : AC 230V~50Hz

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SAFETY-RELATED COMPONENT WARNING!!

**COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION.
REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.**

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTES

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer :
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers).
Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

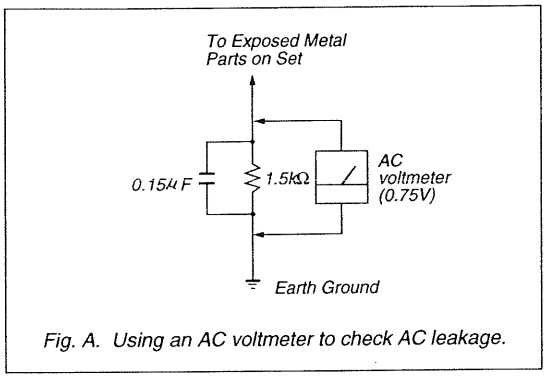


Fig. A. Using an AC voltmeter to check AC leakage.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

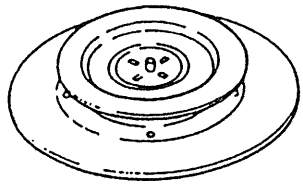
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

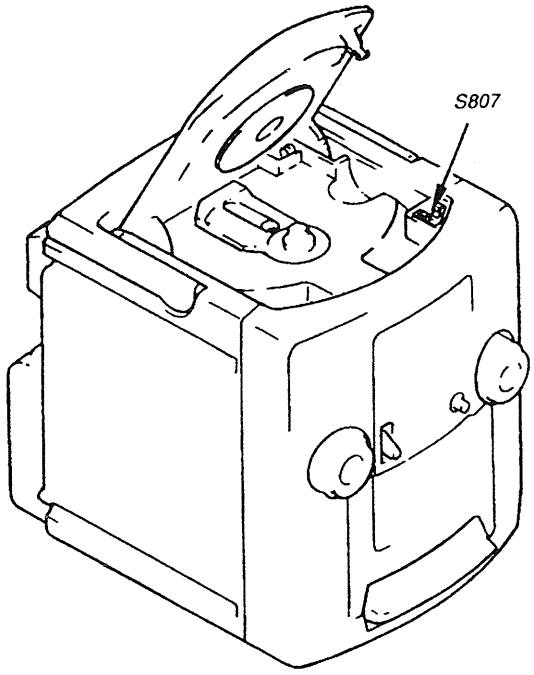
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

- Code number of Chuck Plate Jig : X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Turn POWER switch on with no disc inserted and make Function switch to CD position.
2. Open the lid for CD.
3. Turn on S807 as following figure.
4. Press ▷ key.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.

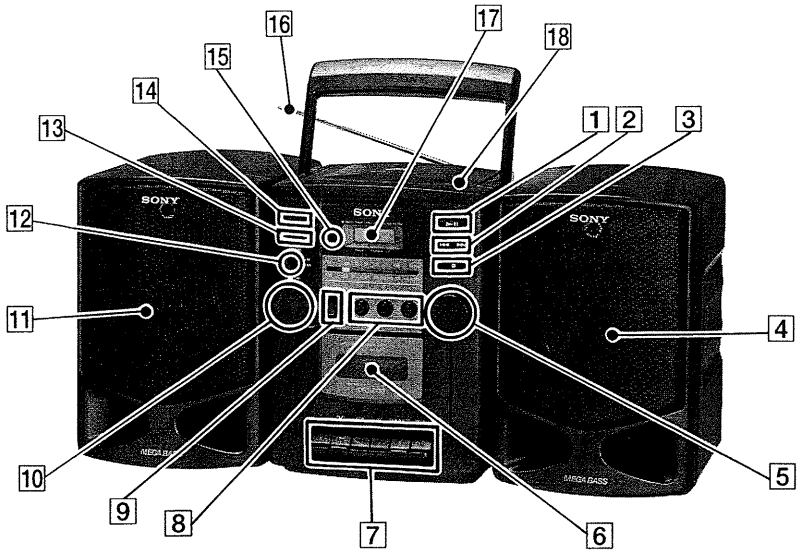


SECTION 2
GENERAL

This section is extracted from instruction manual.

LOCATION AND FUNCTION OF CONTROLS

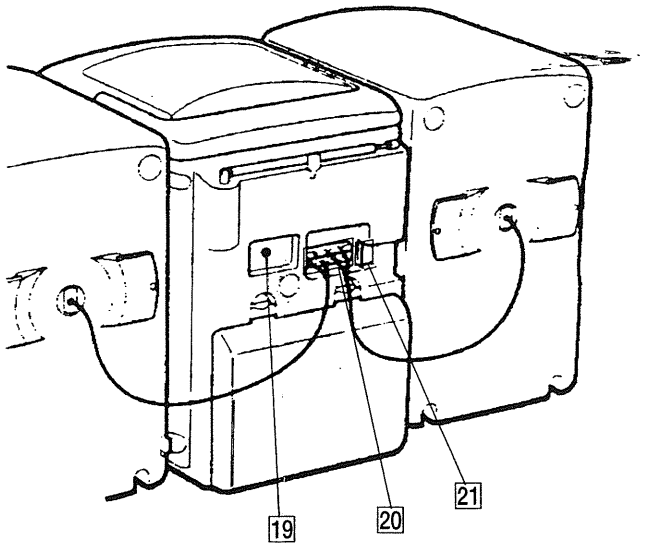
Front panel



1 PLAY/PAUSE (▶II) button
2 AMS/SERCH (I◀◀ / ▶▶I) button
3 STOP (■) button
4 Speaker (R-CH)
5 TUNING knob
6 Cassette holder
7 TAPE operation button
- ● REC button
- ▶ PLAY button
- ◀◀ REW button
- ▶▶ FF button
- ■⏏ STOP/EJECT button
- II PAUSE button

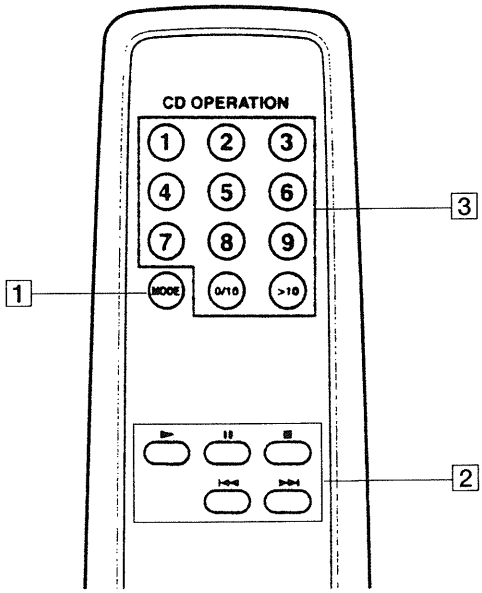
8 ROTARY EQUALIZER/MEGA BASS
9 FUNCTION switch
10 VOLUME control
11 Speaker (L-CH)
12 SURROUND (ON/OFF) button (CFD-Z130 only)
13 DISPLAY/ENTER button
14 PLAY MODE button
15 Remote control sensor
16 Antenna
17 Display panel
18 OPEN/CLOSE button

Rear panel



19 PHONES jack
20 SPEAKER OUTPUT terminal
21 AC IN ~ jack

Remote commander (RMT-CZ130) (CFD-Z120/Z130 only)



1 MODE button
2 CD operation buttons
3 Number buttons

SECTION 3
DISASSEMBLY

● The equipment can be removed using the following procedure.

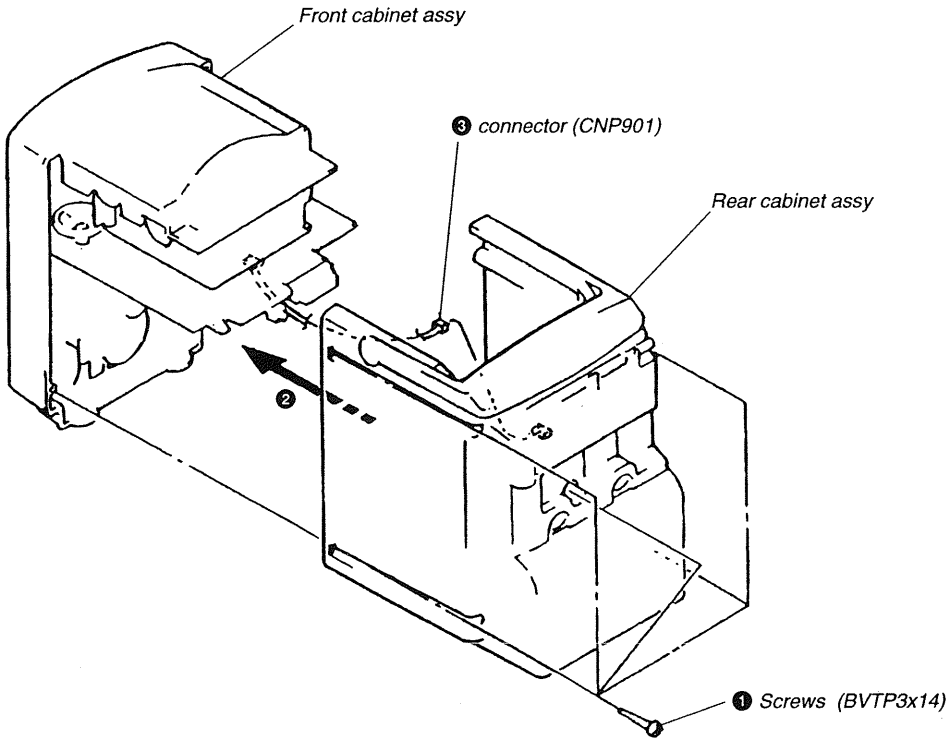
Set → Rear cabinet assy → Power board

Set → Front cabinet assy, Upper cabinet assy → Main board, Surround SW board → Mechanism deck → Cassette holder assy

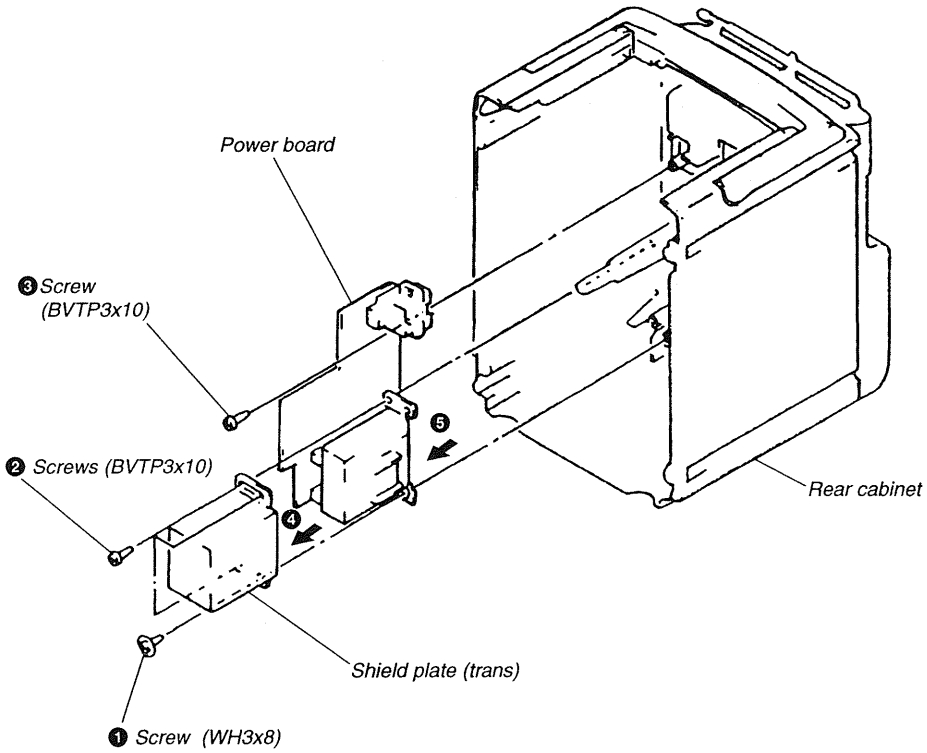
Set → Front cabinet assy, Upper cabinet assy → Control board, Lamp board, CD main board → Optical pik-up block, CD motor board

Note : Follow the disassembly procedure in the numerical order given.

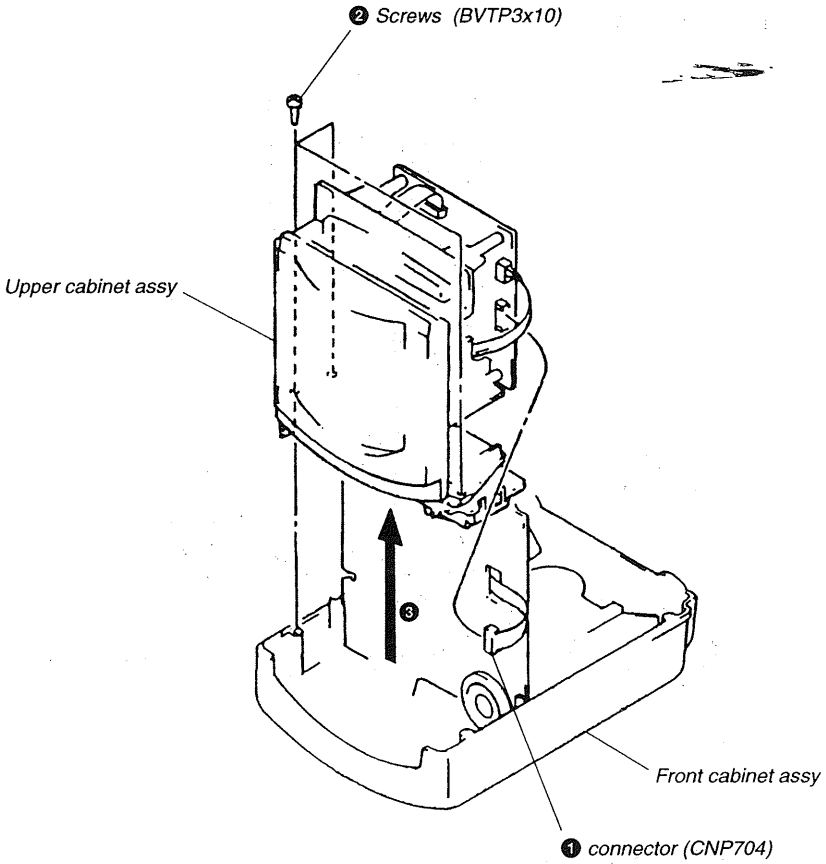
3-1. REAR CABINET ASSY REMOVAL

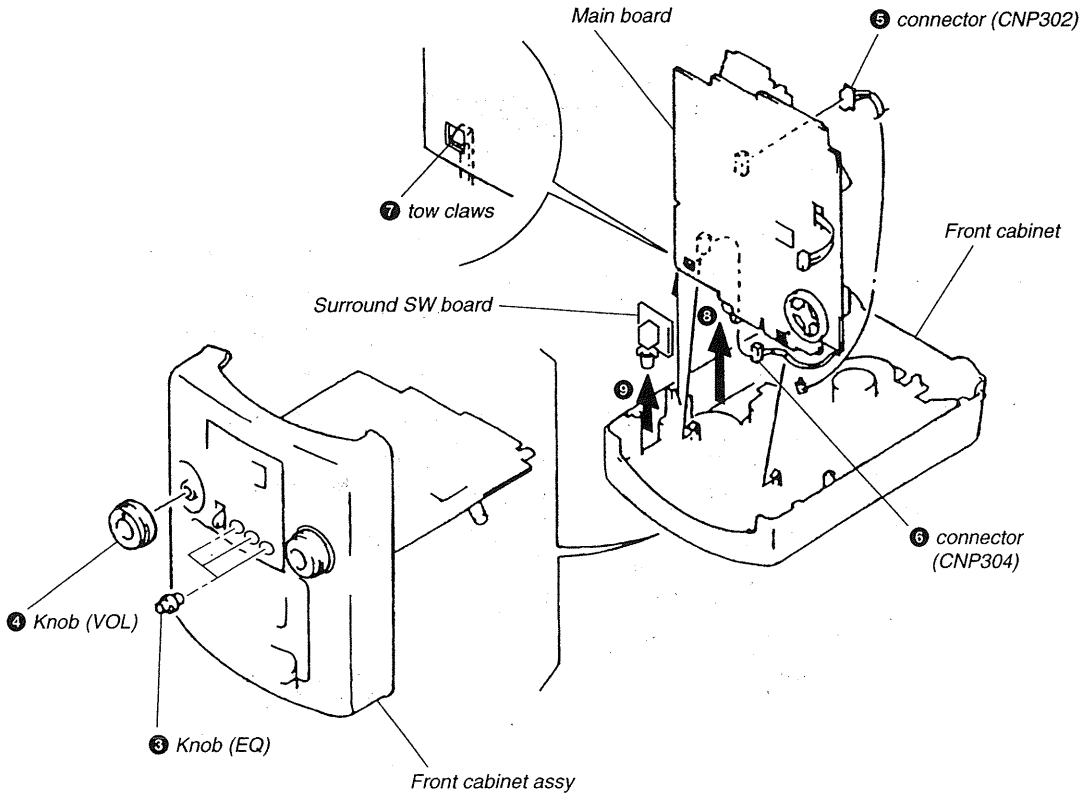


3-2. POWER BOARD REMOVAL

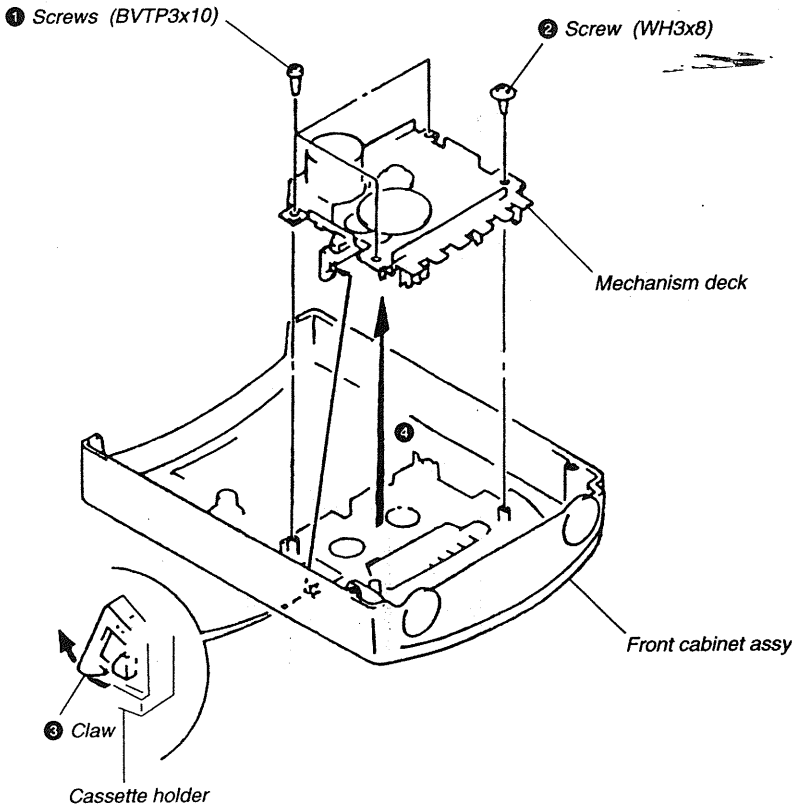


3-3. MAIN BOARD, SURROUND SW BOARD REMOVAL

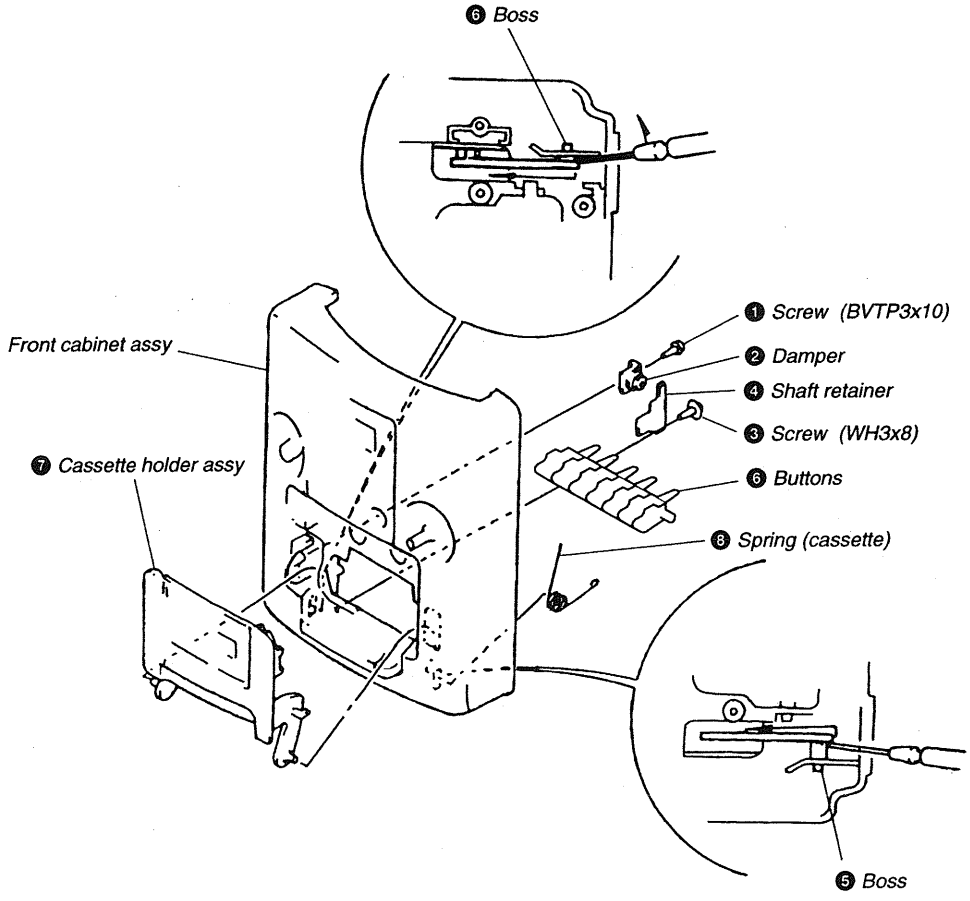




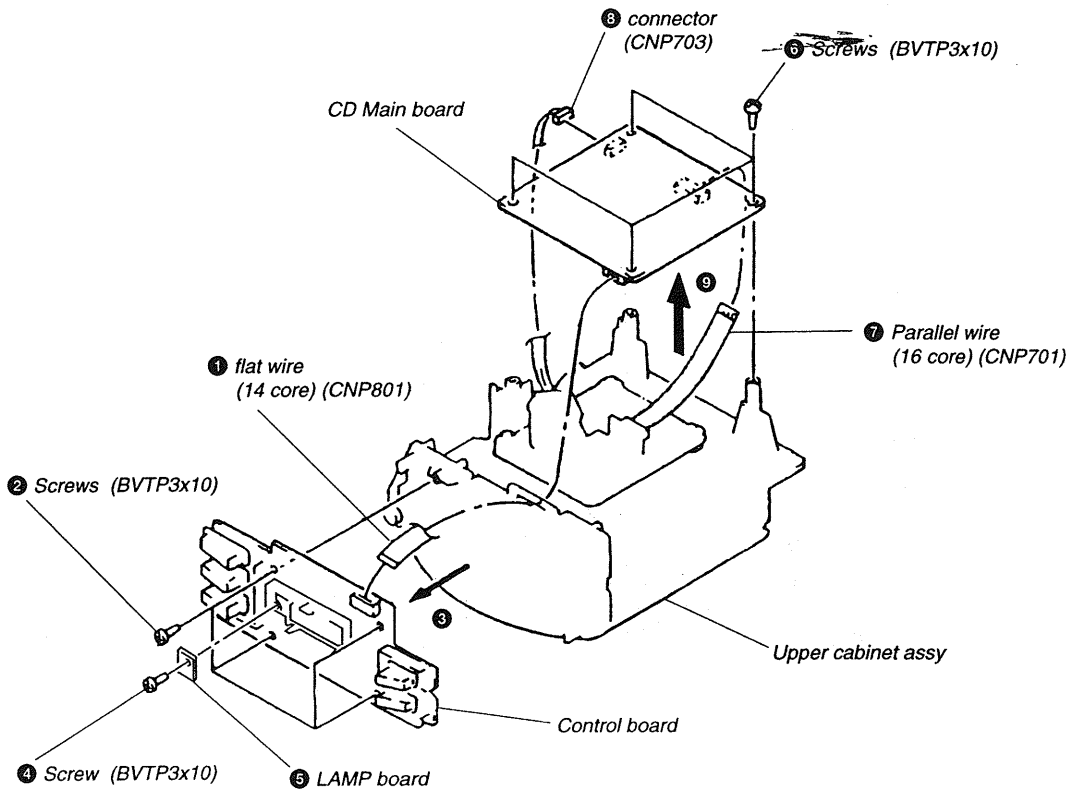
3-4. MECHANISM DECK REMOVAL



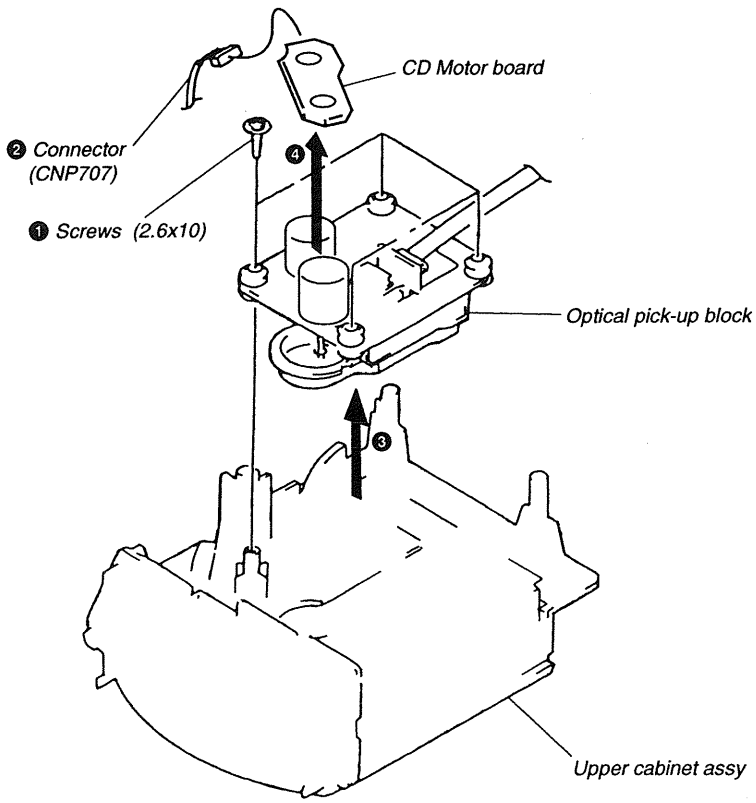
3-5. CASSETTE HOLDER ASSY REMOVAL



3-6. CONTROL BOARD, LAMP BOARD, CD MAIN BOARD REMOVAL



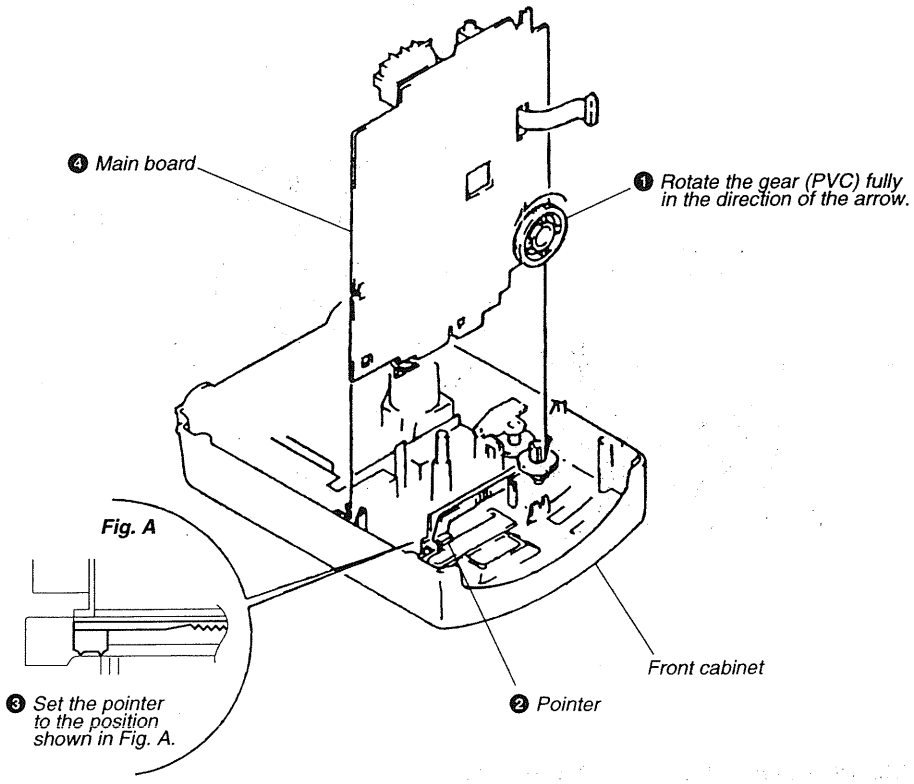
3-7. OPTICAL PICK-UP BLOCK, CD MOTOR BOARD REMOVAL



SECTION 4
DIAL POINTER INSTALLATION

DIAL POINTER SETTING

Note : Follow the installation procedure in the numerical order given.


❹ Main board
❶ Rotate the gear (PVC) fully in the direction of the arrow.
Fig. A
❸ Set the pointer to the position shown in Fig. A.
❷ Pointer
Front cabinet

SECTION 5
ADJUSTMENTS

5-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head, erase head, capstan, pinch roller, rubber belts
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque Meter	Meter Reading
Forward	CQ-102C	27 – 70 g•cm (0.38 – 0.97 oz•inch)
Forward Back Tension	CQ-102C	1.5 – 5.5 g•cm (0.021 – 0.076 oz•inch)
Fast Forward	CQ-201B	55-130 g•cm (0.77-1.80 oz•inch)
Rewind	CQ-201B	55-130 g•cm (0.77-1.80 oz•inch)

Tape Tension Measurement

Torque Meter	Meter Reading
CQ-403A	more than 100g (more than 3.53 oz)

5-2. ELECTRICAL ADJUSTMENTS

TAPE RECORDER SECTION

Standard Output Level

Output terminal	HP OUT
load impedance	32Ω
output signal level	0.25V (–10dB)

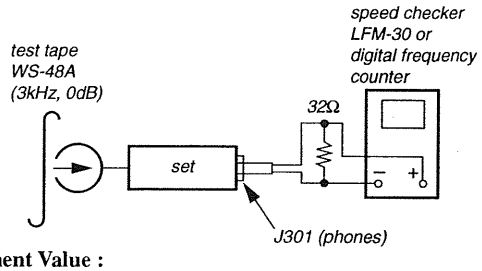
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment
P-4-A063	6.3kHz, –10dB	Head Azimuth Adjustment

Tape Speed Adjustment

Procedure :

Mode : Playback

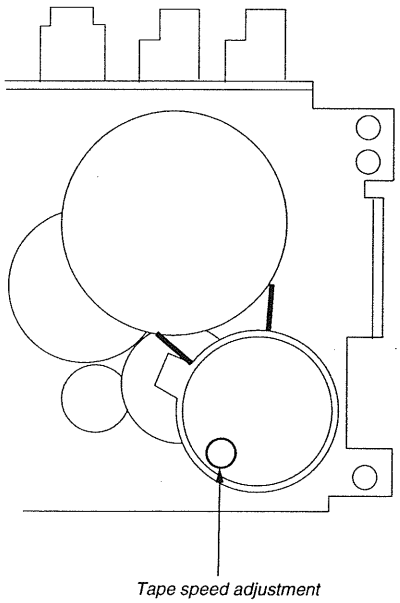


Adjustment Value :

Speed checker	Digital frequency counter
–3 to +3%	2,910 – 3,090Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (45Hz).

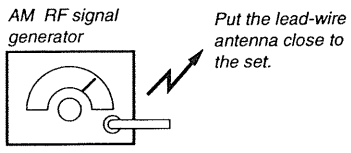
Adjustment Location :



TUNER SECTION

AM Section

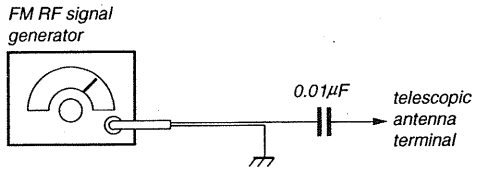
Function switch : AM
Volume : MIN



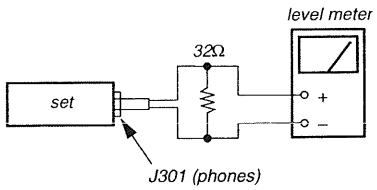
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

Function switch : FM
Volume : MIN



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

no make : US, Canadian, Central & South America model
< > : AEP, UK model
<< >> : East European model
[ ] : Italian model
[[ ]] : Australian model

AM IF ALIGNMENT		
Adjust for a maximum reading on level meter.		
CFT1	455kHz <455kHz> [455kHz]	 <<455kHz>> [[455kHz]]

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L4	520kHz <520kHz> [516kHz]	 <<520kHz>> [[520kHz]]
CT4	1,780kHz <1,680kHz> [1,630kHz]	 <<1,680kHz>> [[1,680kHz]]

AM TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L3	620kHz <620kHz> [620kHz]	 <<620kHz>> [[620kHz]]
CT3	1,400kHz <1,400kHz> [1,400kHz]	 <<1,400kHz>> [[1,400kHz]]

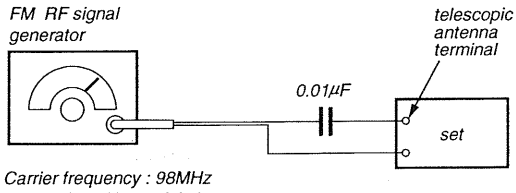
FM FREQUENCY COVERAGE ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L2	86.5MHz <87.0MHz> [87.35MHz]	 <<64.0MHz>> [[86.5MHz]]
CT2	109.5MHz <108.3MHz> [108.25MHz]	 <<109.5MHz>> [[109.5Hz]]

FM TRACKING ADJUSTMENT		
Adjust for a maximum reading on level meter.		
L1	86.5MHz <87.0MHz> [87.35MHz]	 <<64.0MHz>> [[86.5MHz]]
CT1	109.5MHz <108.3MHz> [108.25MHz]	 <<109.5MHz>> [[109.5Hz]]

Adjustment Location : Main board (See page 16)

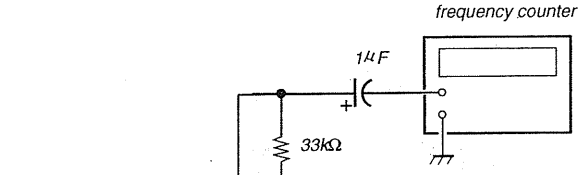
VCO Adjustment

Procedure :

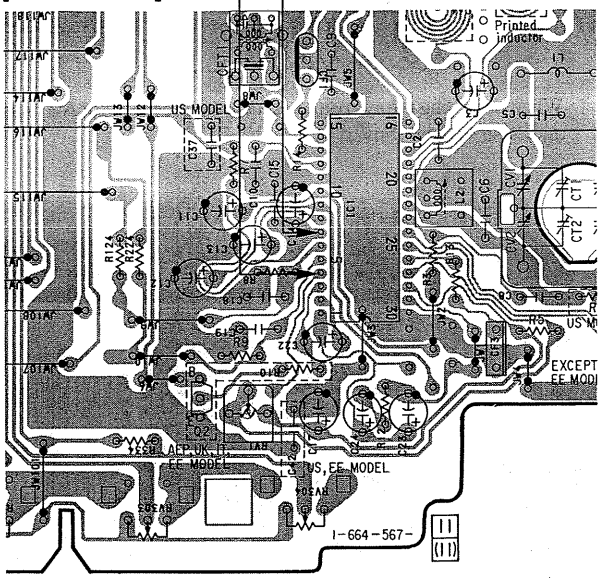


Carrier frequency : 98MHz
Modulation : No modulation
Output level : 1.38mV (–55dB)

1. Connect the frequency counter to ④ and ⑦ pin of IC 1 as shown the figure below.
2. Turn the set to 98MHz.
3. Adjust RV1 for 76kHz±500Hz reading frequency counter.



[MAIN BOARD]



CD SECTION

Note on Adjustment

1. Perform adjustment in test mode.
   After adjustment, be sure to release test mode.
2. Perform adjustments in the order given.
3. Use the disc (YEDS-18. Part No. 3-702-101-01) only when so indicated.

Before adjustment

Put the set into test mode and perform the following checks. Repair if there are any problems.

- Sled Motor Check

1. Press ▶II button, then press OFF button.
2. Press ▶▶I, I◀◀ buttons and confirm that the Optical pick-up moves smoothly from the innermost to outermost circumference and back smoothly and with no catching or abnormal noises. (Cancellation of BTL mute)
   ▶▶I : Optical pick-up moves to the outer circumference
   I◀◀ : Optical pick-up moves to the inner circumference

- Focus Search Check

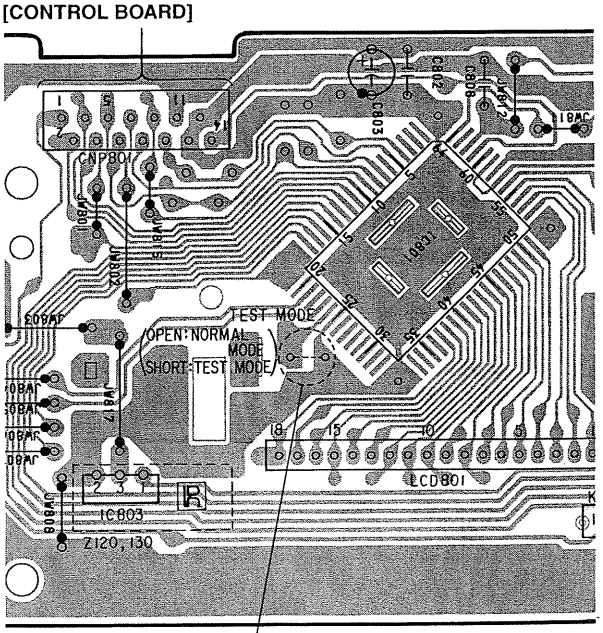
1. Press ▶II button. (Focus search operation is performed continuously.)
2. Look at the Optical pick-up objective lens and confirm that it moves up and down smoothly, with no catching or abnormal noises.
3. Press ■ button.
   Confirm that focus search operation stops. If it does not , press ■ button again longer.

Note : When the malfunction is occurred by mis-passing other buttons, turn off the power and check again from making the test mode.

How to put the Set into Test Mode

1. Short-circuit following portion (IC801 ㉔ pin) on the CONTROL board.
2. Turn the POWER ON.

[CONTROL BOARD]



TEST MODE terminal

How to release Test Mode

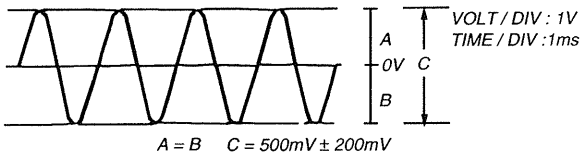
1. Open the short-circuit to release test mode.

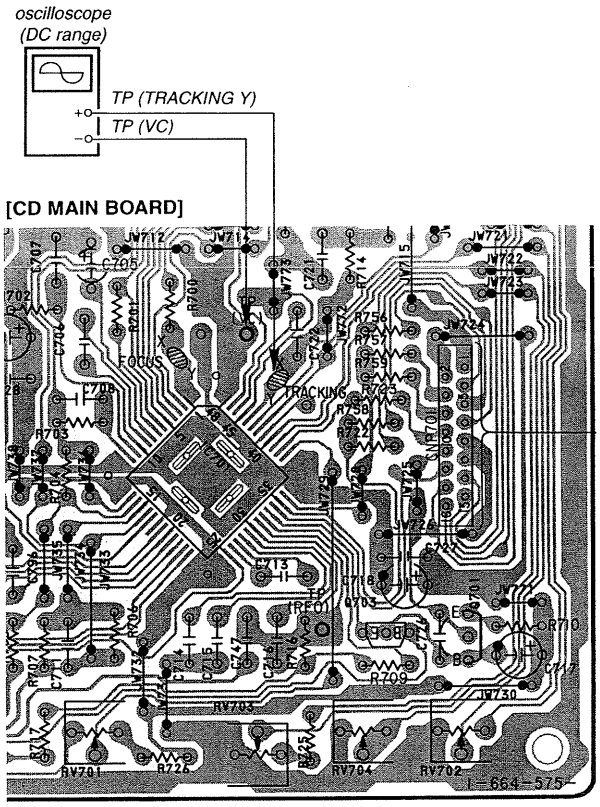
E-F Balance Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

Adjustment Procedure :

1. Connect the oscilloscope to test point TP (VC) and TP (TRACKING Y) on CD MAIN board.
2. Put the set into test mode.
3. optical pick-up setting to the center by ▶▶I or I◀◀ button pushing.
4. Insert disc (YEDS-18) and press ▶II button.
5. Adjust RV703 so that the oscilloscope traveres waveform is symmetrical, as shown in the figure below.
6. Release test mode after adjustment is completed.





Adjustment Location : CD Main board (See page 17)

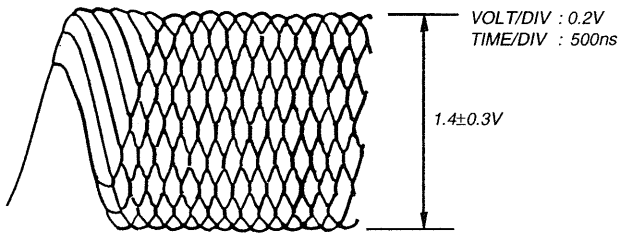
Focus Bias Adjustment

This adjustment is to be done when the optical pick-up block is replaced.

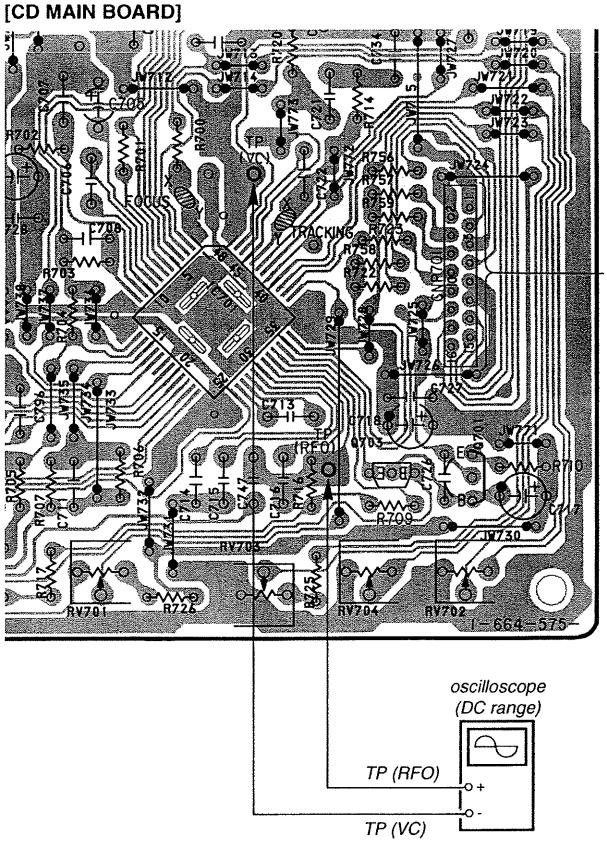
Adjustment procedure :

1. Connect the oscilloscope to test point TP (VC) and TP (RFO) on CD MAIN board.
2. Put the set into test mode.
3. Optical pick-up setting to the center by ▶▶I or I◀◀ button pushing.
4. Insert disc (YEDS-18) and press ▶II button.
5. Press the ▶II button. (Tracking servo ON)
6. Adjust RV701 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.
7. Release test mode after adjustment is completed.

● RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.



Adjustment Location : CD Main board (See page 17)

Focus/Tracking Gain Adjustment

A frequency responce analyzer is necessary in order to perform this adjustment exactly.
However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.
Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.
However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

Symptoms \ Gain	Focus	Tracking
● The time until music starts becomes longer for STOP → ▶II button or automatic selection. (I◀◀, ▶▶I buttons pressed.) (Normally takes about 2 seconds.)	low	low or high
● Music does not start and disc continues to rotate for STOP →▶II button or automatic selection. (I◀◀, ▶▶I buttons pressed.)	–	low
● Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
● More noise during 2-axis device operation.	high	high

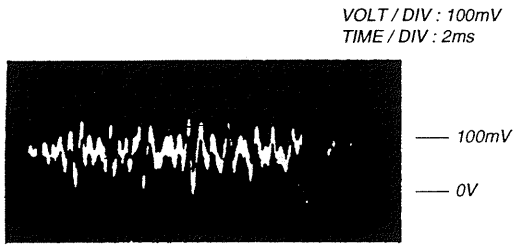
The following is a simple adjustment method.

– Primary Adjustment –

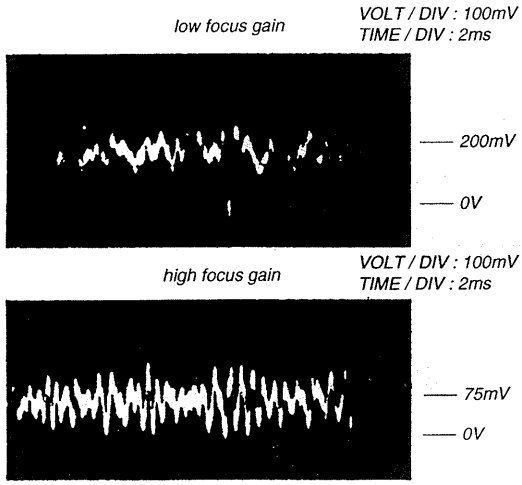
Note : Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment.If the positions after the primary adjustment are only a little different, return the controls to the original position.

Procedure :

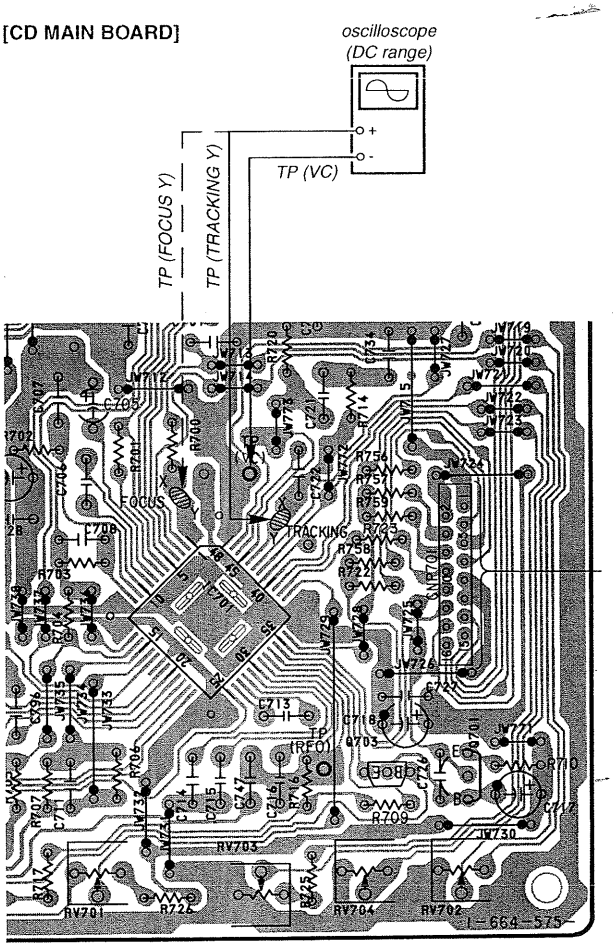
1. Keep the set horizontal.
   If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2-axis device.
2. Insert disc (YEDS-18) and press ▶II button.
3. Connect oscilloscope to TP(FOCUS Y) and TP (VC) on CD MAIN board.
4. Adjustment RV702 on CD MAIN board so that the waveform is as shown in the figure below. (Focus gain adjustment)



- Incorrect Examples (DC level changes more than on adjusted waveform)



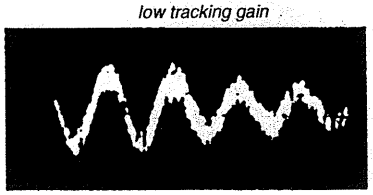
[CD MAIN BOARD]



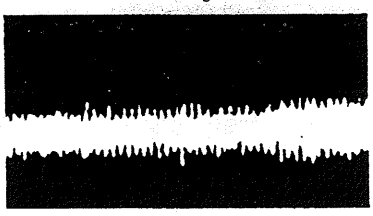
5. Connect oscilloscope to TP (TRACKING Y) and TP (VC) on CD MAIN board.
6. Adjust RV704 on CD MAIN board so that the waveform is as shown in the figure below. (Tracking gain adjustment)

● Incorrect Examples (fundamential wave appears)

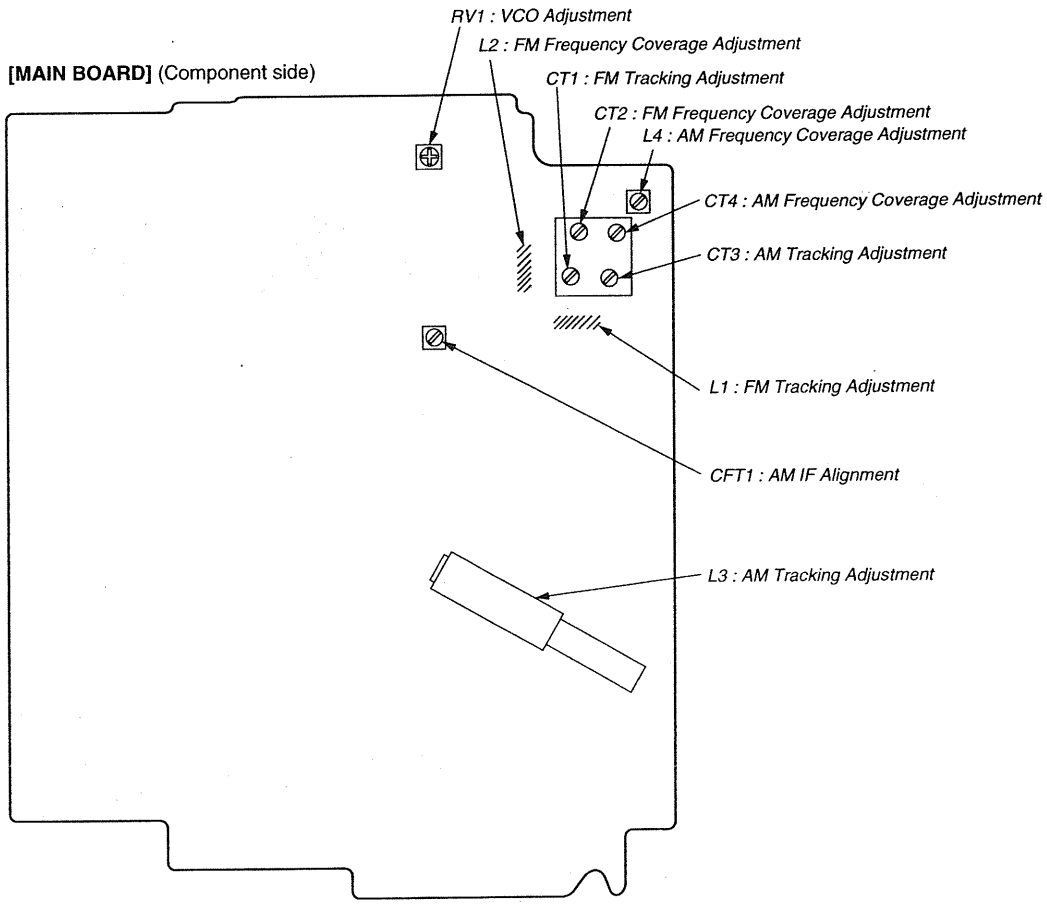
low tracking gain



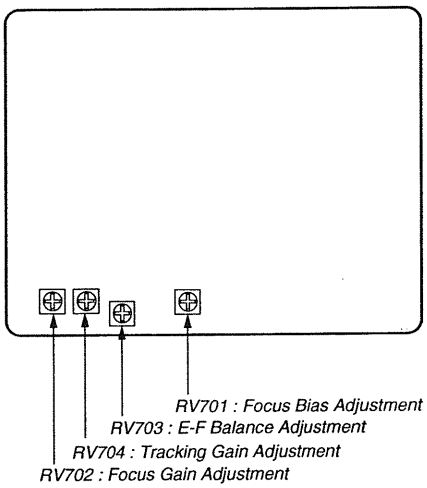
high tracking gain
(high fandametial wave than for low gain)



Adjustment Location : MAIN board (Component side)


[MAIN BOARD] (Component side)
RV1 : VCO Adjustment
L2 : FM Frequency Coverage Adjustment
CT1 : FM Tracking Adjustment
CT2 : FM Frequency Coverage Adjustment
L4 : AM Frequency Coverage Adjustment
CT4 : AM Frequency Coverage Adjustment
CT3 : AM Tracking Adjustment
L1 : FM Tracking Adjustment
CFT1 : AM IF Alignment
L3 : AM Tracking Adjustment

[CD MAIN BOARD] (Component side)



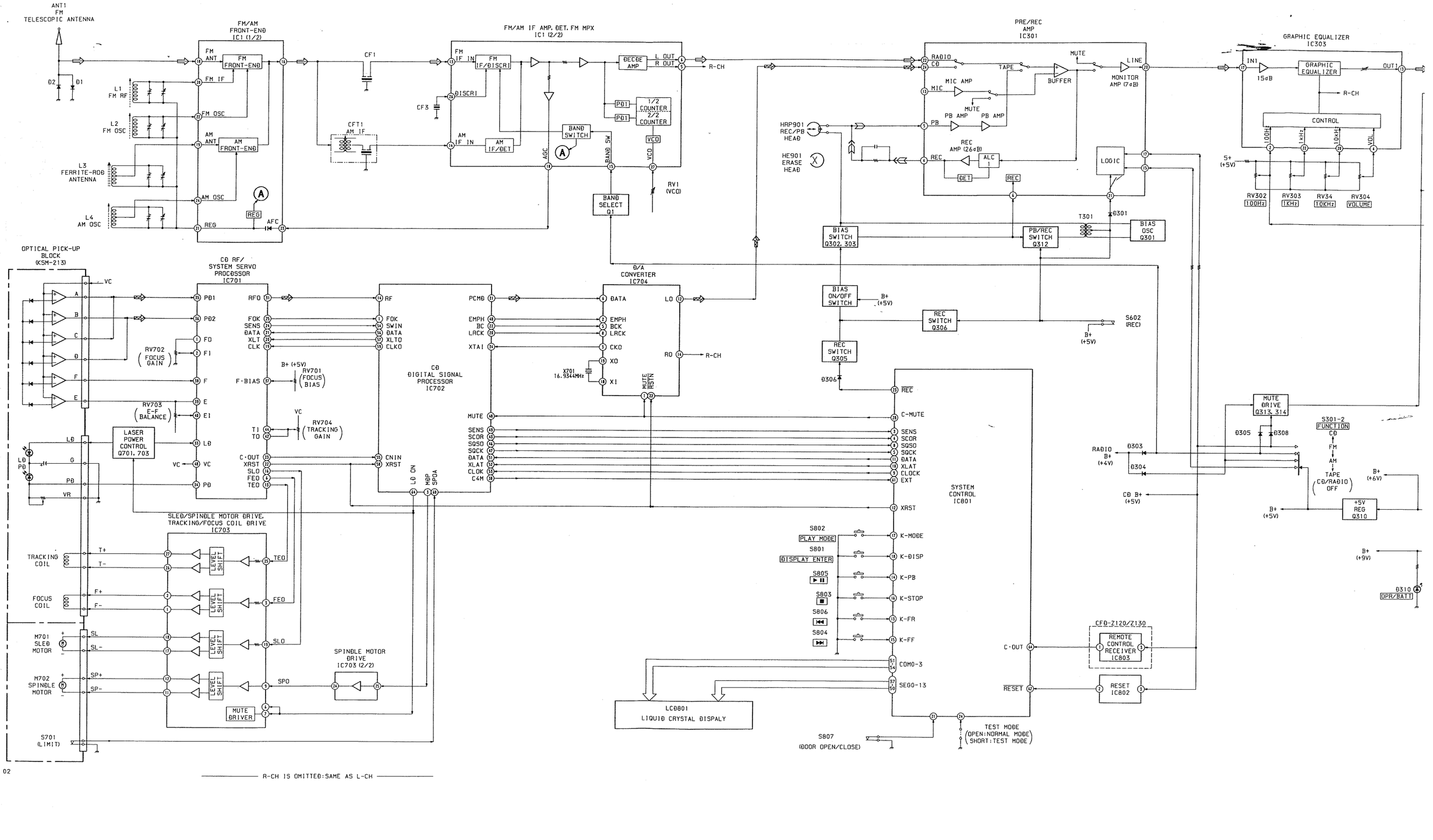
SECTION 6
EXPLANATION OF IC TERMINALS

CONTROL BOARD IC801 CXP5084H-680Q (CFD-Z110), CXP5086H-681Q (CFD-Z120/Z130)
(SYSTEM CONTROL, LCD DRIVE)

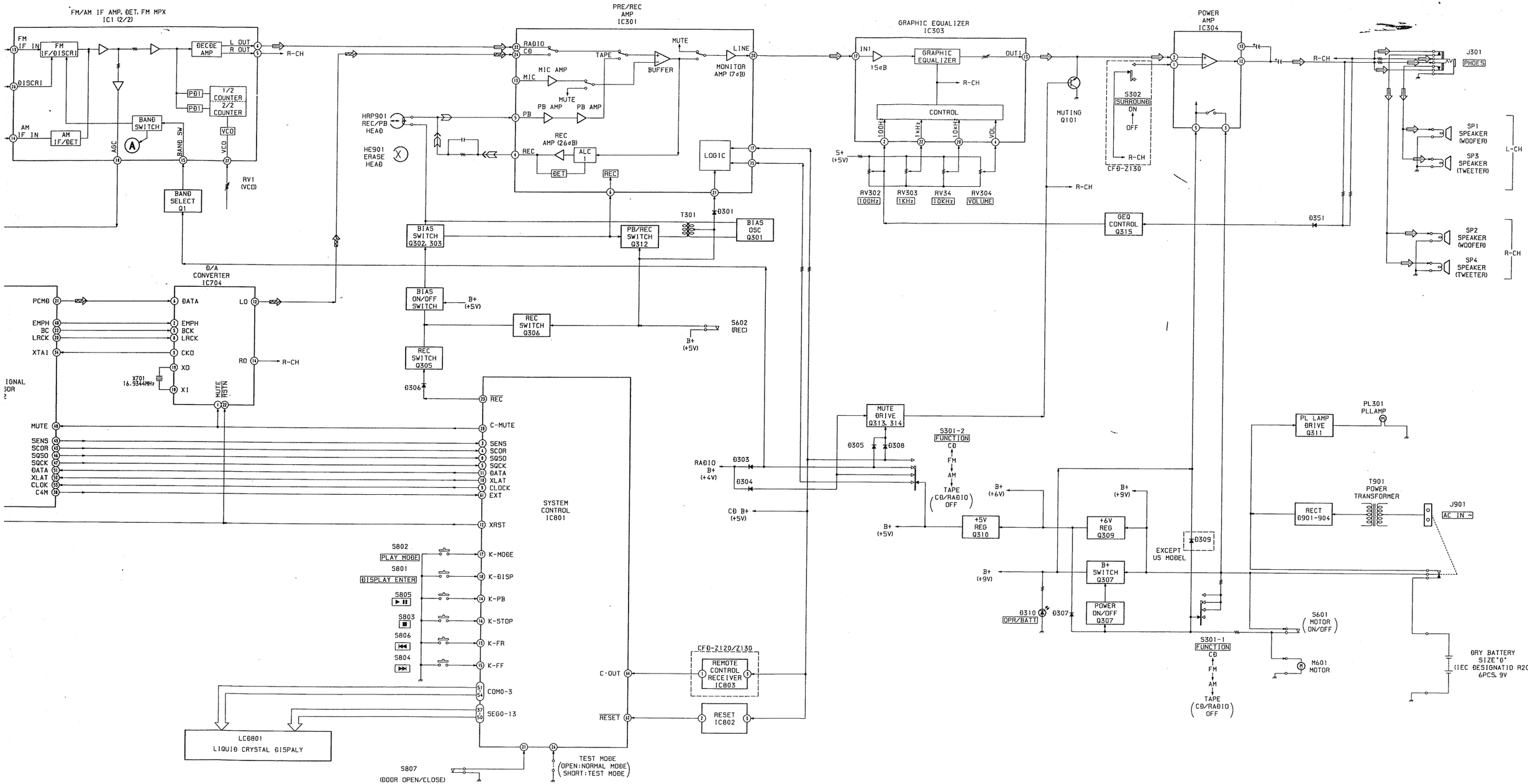
Pin No.	Pin name	I/O	Description
1	NC	–	Not used.
2	NC	–	Not used.
3	NC	–	Not used.
4	SCOR	I	SCOR input.
5	SQCK	O	SQCK output.
6	NC	–	Not used.
7	SENS	I	SENS input.
8	SQSO	I	SUBQ data input.
9	CLOCK	O	Clock output.
10	XLAT	O	Lutch output.
11	DATA	O	Data output.
12	XRST	O	Reset output.
13	K-FR	I	FR AMS (search) key input.
14	K-PLAY	I	PLAY key input.
15	K-FF	I	FF AMS (search) key input.
16	K-STOP	I	STOP key input.
17	K-P.MODE	I	PLAY MODE key input
18	K-DISP	I	DISPLAY key input.
19	MUTE	O	Mute output. " H " : Mute.
20	NC	–	Not used.
21	DOOR	I	Open/close detection input " L ": close " H " open
22	CD	–	Not used.
23	REC	I	Tape REC input. " L " : REC
24	TEST	I	Wiring to test mode.
25	GND	–	Ground.
26–34	NC	–	Not used.
35	SEG15	O	LCD segment output (Not used)
36	SEG14	O	LCD segment output (Not used)
37–50	SEG13–0	O	LCD segment output.
51	COM3	O	LCD comon output.
52	COM2	O	LCD comon output.
53	COM1	O	LCD comon output.
54	COM0	O	LCD comon output.
55	VLCD1	–	LCD controller driver bias power supply.
56	VLCD2	–	LCD controller driver bias power supply.
57	VLCD3	–	LCD controller driver bias power supply.
58	VDD	–	Power supply.
59	VL	–	Connect to pin 57.
60	NC	–	Not used.
61	EXTAL	I	Clock oscillation input.
62	RESET	–	Reset input.
63	WP	–	Not used.
64	C OUT	I	Remote control signal input (CFD-Z120, Z130)

SECTION 7
DIAGRAMS

7-1. BLOCK DIAGRAM

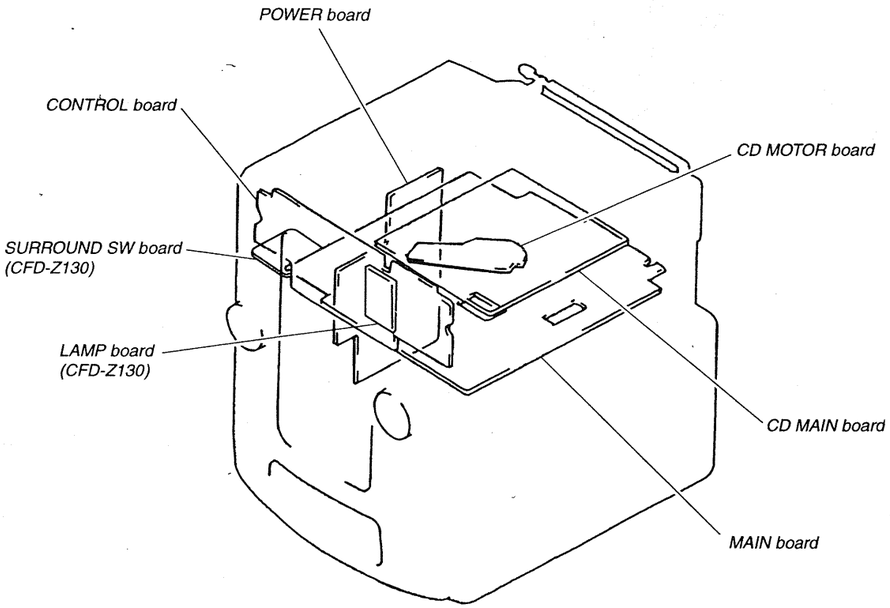


R-CH IS OMITTED:SAME AS L-CH



- Signal path.
  - : FM
  - : PB (TAPE)
  - : REC (TAPE)
  - : CD

● CIRCUIT BOARDS LOCATION



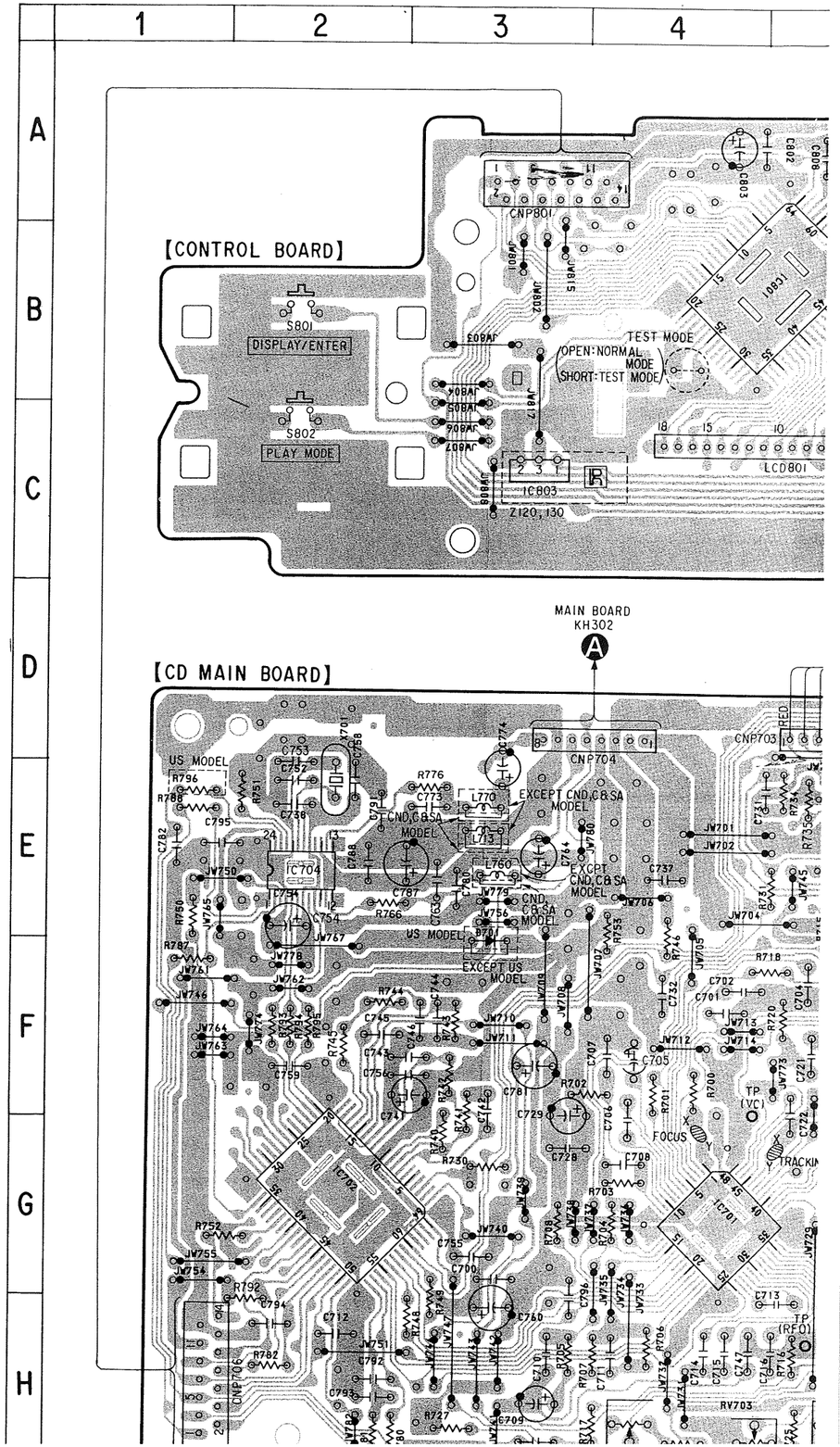
● SEMICONDUCTOR LOCATION

Ref. No.	Location
D701	F-3
IC701	G-4
IC702	G-2
IC703	E-5
IC704	E-2
IC801	C-5
IC802	A-6
IC803	C-3
Q701	H-5
Q703	H-5

Note:

- ○— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviation

7-2. PRINTED WIRING BOARDS – CD SECTION –



'OR board

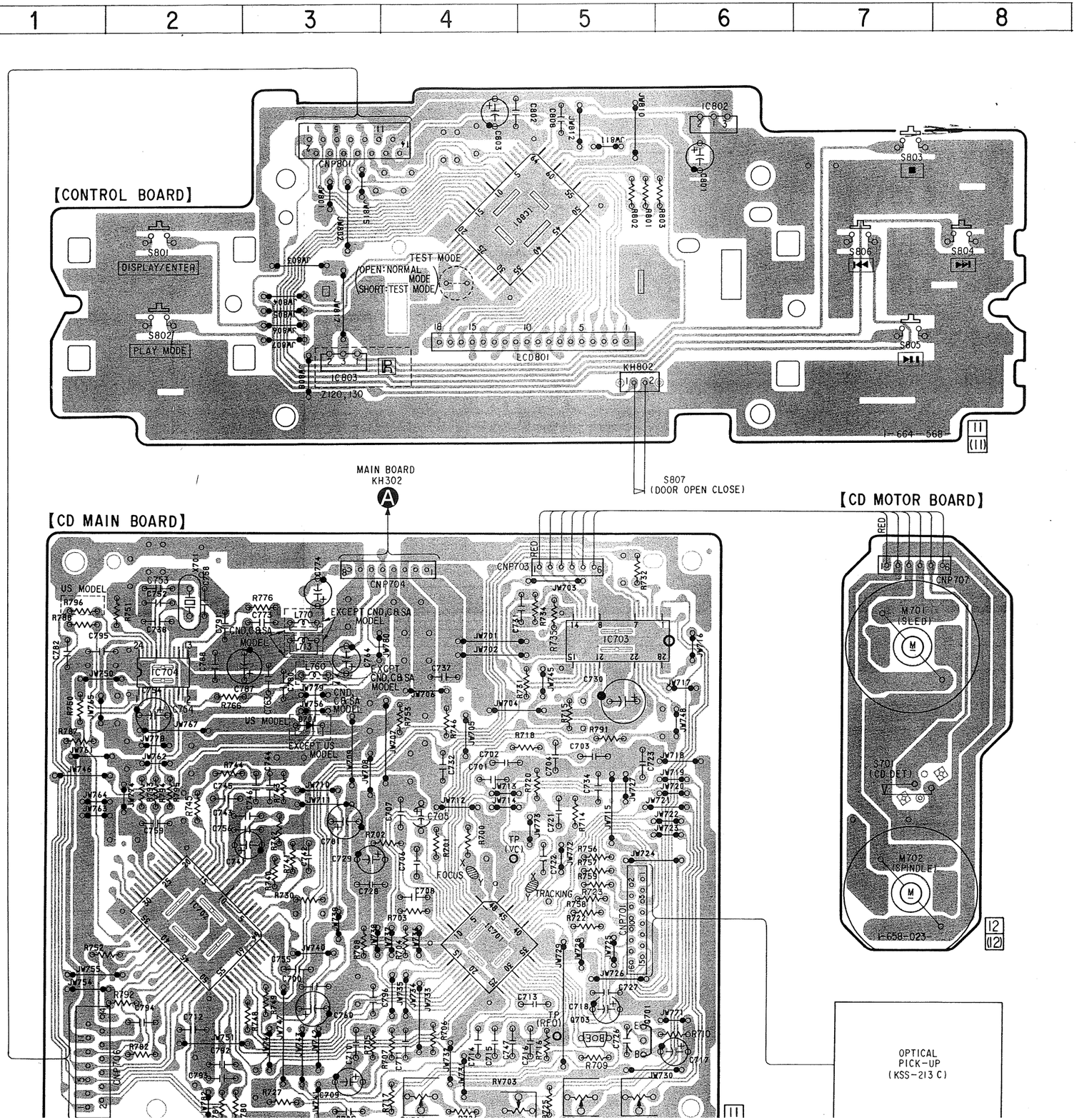
MAIN board

ard

7-2. PRINTED WIRING BOARDS – CD SECTION –

• SEMICONDUCTOR LOCATION

Ref. No.	Location
D701	F-3
IC701	G-4
IC702	G-2
IC703	E-5
IC704	E-2
IC801	C-5
IC802	A-6
IC803	C-3
Q701	H-5
Q703	H-5



Note:

- ○— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviation

7-3. SCHEMATIC DIAGRAM – CD SECTION –

● Refer to page 36 for IC Block Diagrams.

【CONTROL BOARD】

LC8801

IC801
CXP5084H-680Q (Z110)
CXP5086H-681Q (Z120, Z130)
SYSTEM CONTROL
/LCD DRIVE

IC802
PST994D
RESET

IC803
GP1U28X
Z120, Z130

S801 DISPLAY/ENTER
S802 PLAY MODE
S803
S804
S805
S806

KH802
S807 (DOOR OPEN CLOSE)

【CD MAIN BOARD】

CNP801
CNP706 14P

Q701, 703
AUTO LASER
POWER CONTROL

Q701 KTA1271-Y
Q703 KRC110M

IC701
CD RF & SYSTEM
SERVO PROCEEOR
IC701
CXA1782BQ

IC703
SLED/SPINDLE
MOTOR DRIVE,
TRACKING/FOCUS
COIL DRIVE
IC703
BA6198FP

IC704
SM5877AM
D/A
CONVERTER

RV701 22k FOCUS BIAS
RV703 2.2k E-F BALANCE
RV704 22k TRACKING GAIN
RV702 22k FOCUS GAIN

TP (RFO)
TP (FO)
TP (TEO)
TP (VC)

CNP701 16P

TRACKING COIL
FOCUS COIL

⚠ OPTICAL PICK-UP (KSS-213C)

【CD MOTOR BOARD】

CNP707 6P
CNP703 6P

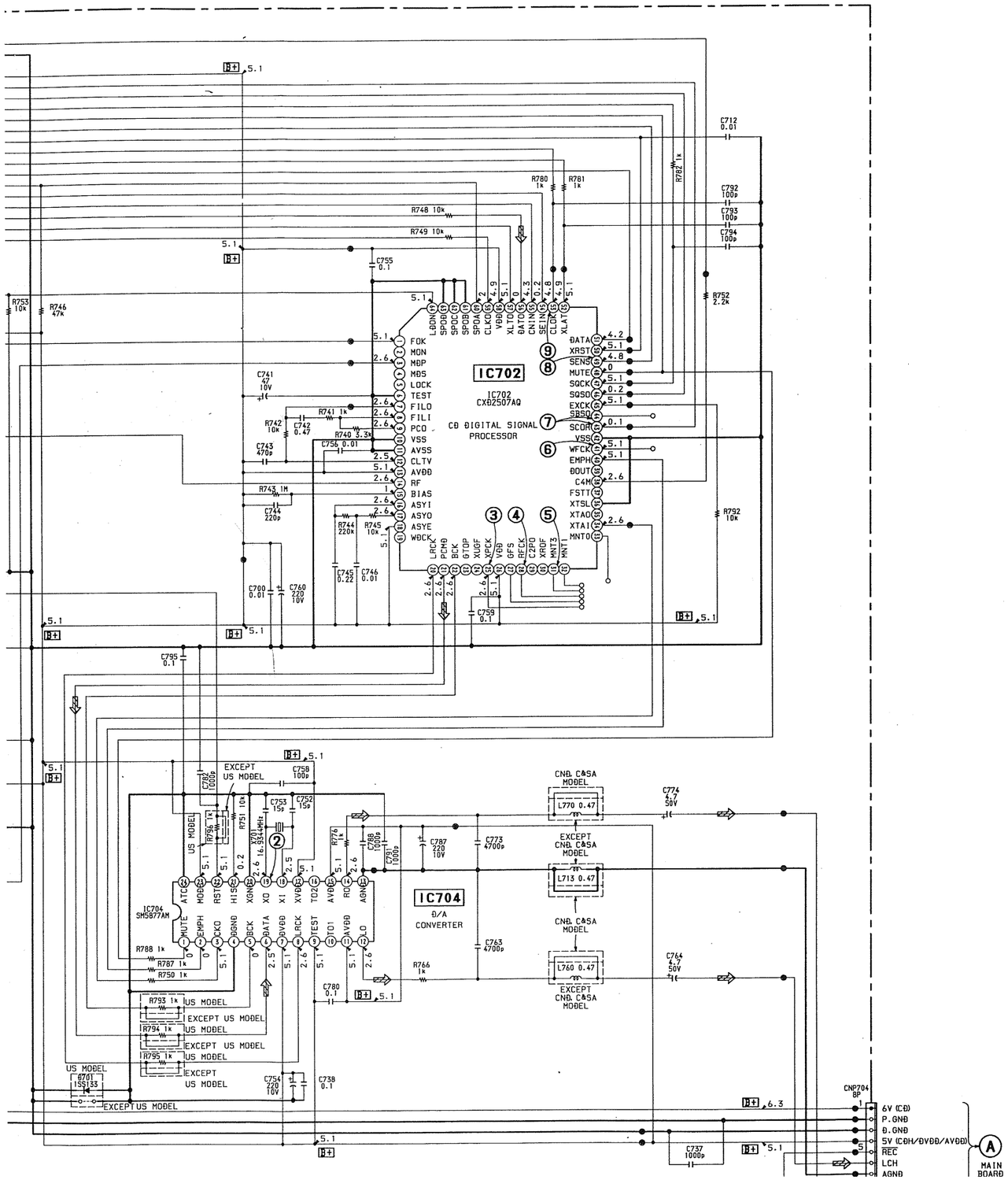
M702
SPENDLE
MOTOR

M701
SLED
MOTOR

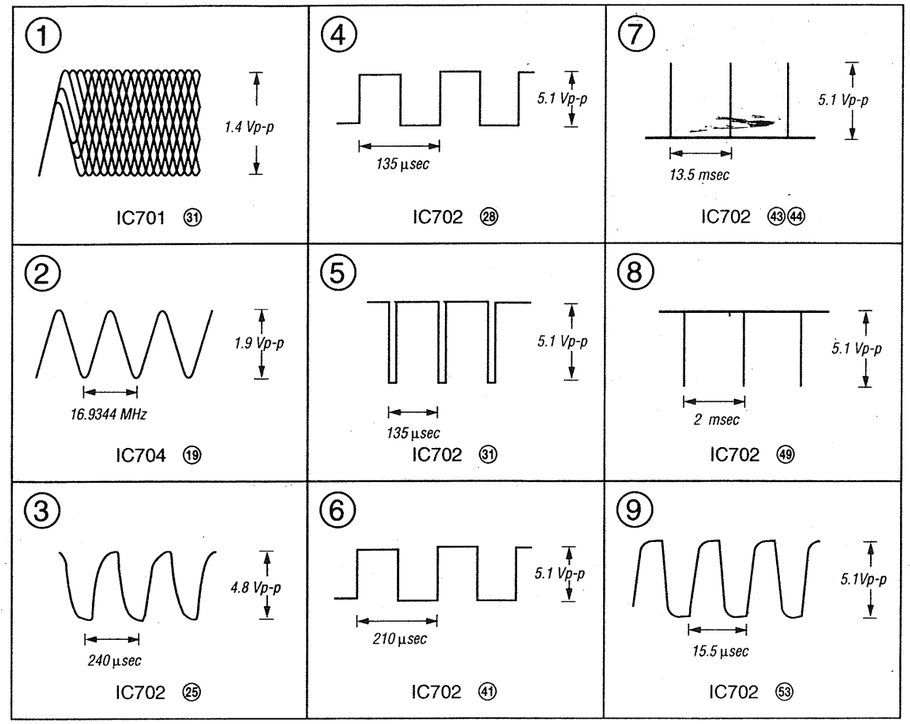
S701

US MODEL
EXCEPT US MODEL

17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28



● WAVEFORMS



Note :

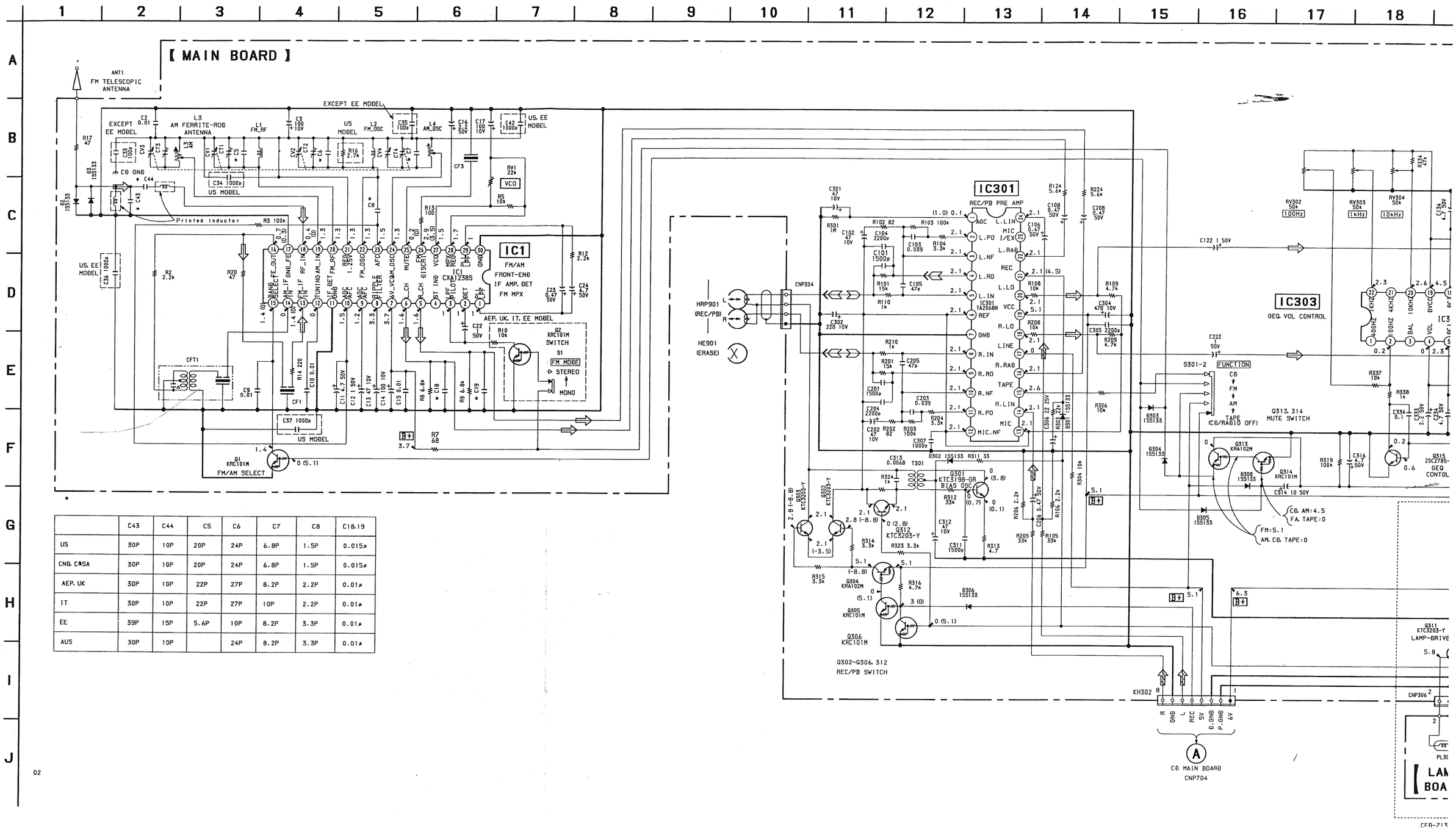
- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ▨ : CD
- Abbreviation

7-4. SCHEMATIC DIAGRAM – MAIN SECTION –

● Refer to page 36 for IC Block Diagrams.



	C43	C44	C5	C6	C7	C8	C18,19
US	30P	10P	20P	24P	6.8P	1.5P	0.015μ
CND, CASA	30P	10P	20P	24P	6.8P	1.5P	0.015μ
AEP, UK	30P	10P	22P	27P	8.2P	2.2P	0.01μ
IT	30P	10P	22P	27P	10P	2.2P	0.01μ
EE	39P	15P	5.6P	10P	8.2P	3.3P	0.01μ
AUS	30P	10P		24P	8.2P	3.3P	0.01μ

02

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ⚠ : internal component.

Note :	**Note :**
The components identified by mark ⚠ or dotted line with mark ⚠are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Power voltage is dc 9 V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM (RADIO), PLAY (RAPE)
  ( ) : AM (RADIO), REC (TAPE)

- Signal path.
  ⇨ : FM ⇨ : CD
  ⇨ : PB
  ⇨ : REC
- Abbreviation
  CND : Canadian AUS : Australian

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

CFB-Z130

【SURROUND SW BOARD】

S302 SURROUND OFF ON

KH304 KH301

C221 22 25V

R353 100k

C121 22 25V

J302 SPEAKER OUTPUT USE IMP:3.2Ω

SP3 TWEETER (L)

SP1 SPEAKER (L)

SP2 SPEAKER (R)

SP4 TWEETER (R)

IC304 LA4597 POWER AMP

IC303 GEQ VOL CONTROL

IC303 CXA1352AS

RV302 50k 100Hz

RV303 50k 1kHz

RV304 50k 10kHz

R334 47k

C134 4.7 50V

C133 1000p

C132 100p

C131 100 10V

C132 4.7 50V

4.5 B+

C122 1 50V

R151 10k

R152 2.2k

C135 50V

Q101 KRC110M MUTE

C156 100p

C253 100 10V

C154 1000 10V

C155 0.1

C153 100 10V

R109 4.7k

C304 470 10V

C305 2200p

R209 4.7k

C222 50V

S301-2 FUNCTION CD FM AM TAPE (CD/RADIO OFF)

R337 10k

R338 1k

Q313, 314 MUTE SWITCH

C334 0.1

C333 2.2 50V

C224 4.7 50V

C225 1000p

C232 100p

R333 33k

R332 150k

RV301 50k

R331 47

C235 50V

R251 10k

R252 2.2k

C256 100p

C252 1500p

C251 47 10V

C151 47 10V

C152 1500p

C351 220 10V

R153 100

R253 100

C255 0.1

R155 470k

R255 470k

R254 100

R154 100

CNB, C&SA MODEL

EXCEPT CNB, C&SA MODEL

L251 2.2mH L151 2.2mH

L351 2.2mH

CNB, C&SA MODEL

J301 PHONES

EXCEPT CNB, C&SA MODEL

CNB, C&SA MODEL

S301-1 FUNCTION CD FM AM TAPE (CD/RADIO OFF)

B303 1SS133

B304 1SS133

Q313 KRA102M

Q314 KRC101M

R319 100k

C316 4.7 50V

C314 10 50V

Q315 2SC2785-E GEO CONTOL

RV301 VOLUME

Q201 KRC110M MUTE

B308 1SS133

B305 1SS133

CD, AM:4.5 FM, TAPE:0

FM:5.1 AM, CD, TAPE:0

B351 1SS133

C353 0.47 50V

R352 180k

C352 0.01

R346 1k

B307 1SS133

B309 1SS133

(CD/RADIO OFF)

EXCEPT US MODEL

Q307, 308 POWER ON/OFF SWITCH

C341 4700 16V

Q307 KTA1271-Y

R341 100k

R342 1.5k

Q308 KRC101M

Q309 2SB1396K 6V-REG

C342 0.022

Q310 KTC5203-Y 5V-REG

C346 0.022

R350 10

R349 560

R347 100

R345 220

Q310 L-1324HB-TNB5/7.8

OPR/BATT

R343 560

R344 220

R348 1k

C344 220 10V

R312 MTZ-J 5.6C

C345 0.022

C347 220 10V

R311 MTZ-J 1.8C

C343 0.022

R340 1 1/4W

US MODEL

EXCEPT US MODEL

EXCEPT CNB, C&SA MODEL

L301

CNB, C&SA MODEL

EXCEPT CNB, C&SA MODEL

L30

CNB, C&SA MODEL

EXCEPT CNB, C&SA MODEL

L302

CNB, C&SA MODEL

CFB-Z130

KH305 3 9V (AC) 9V GND 1

CNP901 3P

CFB-Z110 CFB-Z120

CNP901 2P

L902

EXCEPT CNB, C&SA MODEL CNB, C&SA MODEL

3.15A/250V:US, CNB, C&SA MODEL

T2.5AL:EXCEPT US, CNB, C&SA MODEL

F902

T901 POWER TRANSFORMER

C903 0.022

C904 0.022

B903 L12A02

B904 L12A02

B901 L12A02

B902 L12A02

C901 0.022

C902 0.022

EXCEPT CNB, C&SA MODEL

L901

CNB, C&SA MODEL

CNJ901

~ AC IN

TOTAL CURRENT

FM:99.5mA

AM:99.0mA

TAPE PLAY:175.0mA

TAPE REC:195.5mA

CD PLAY:350.0mA

CNJ901

9RY BATTERY SIZE"9" (IEC OSIGNATION LR20) 6PCS. 9V

【POWER BOARD】

KH302 8 1

R GND L REC 5V D.GND P.GND 6V

A CD MAIN BOARD CNP704

CNP306 2 1

PL301

【LAMP BOARD】

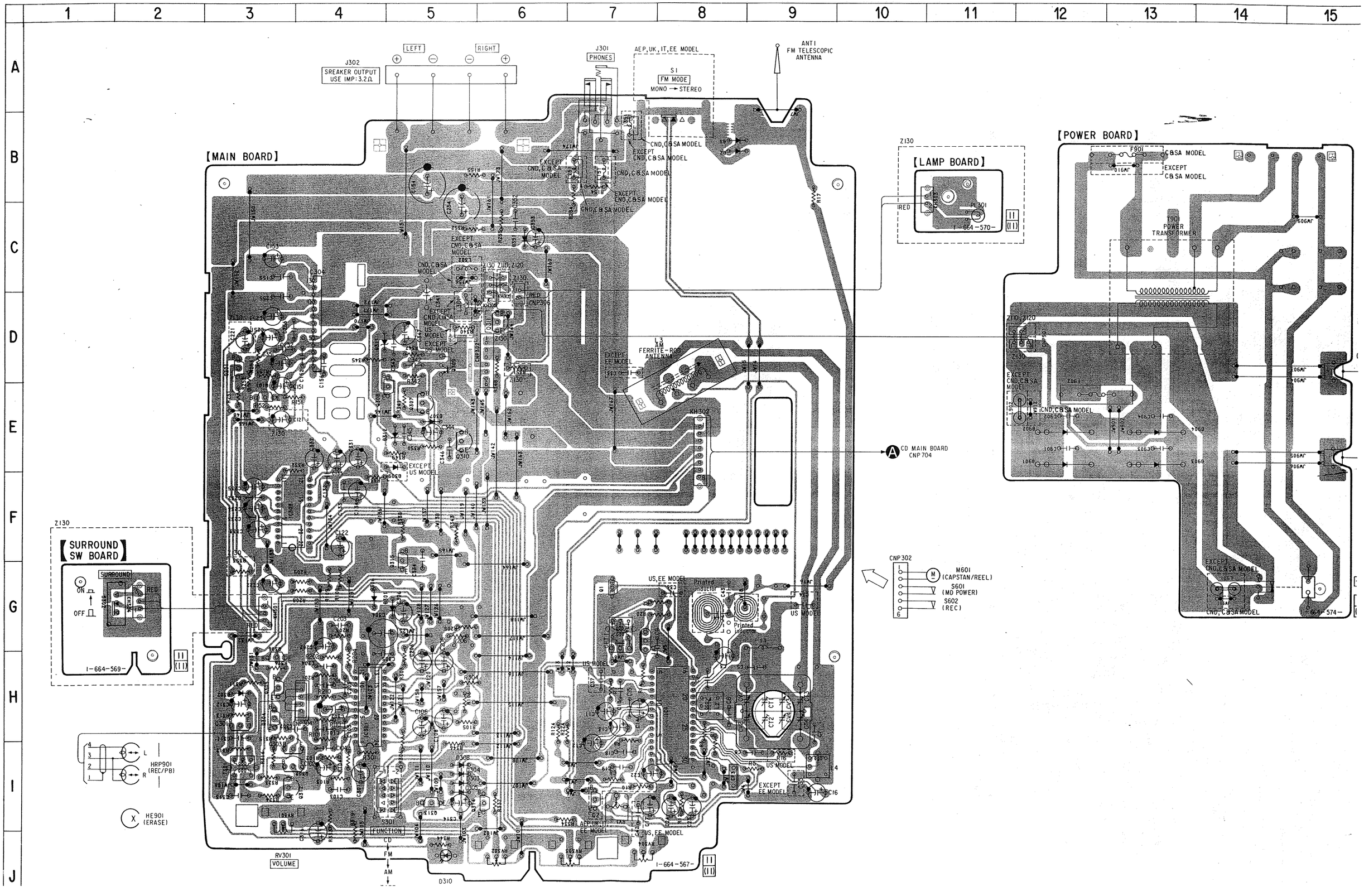
Q311 KTC3203-Y LAMP-DRIVE

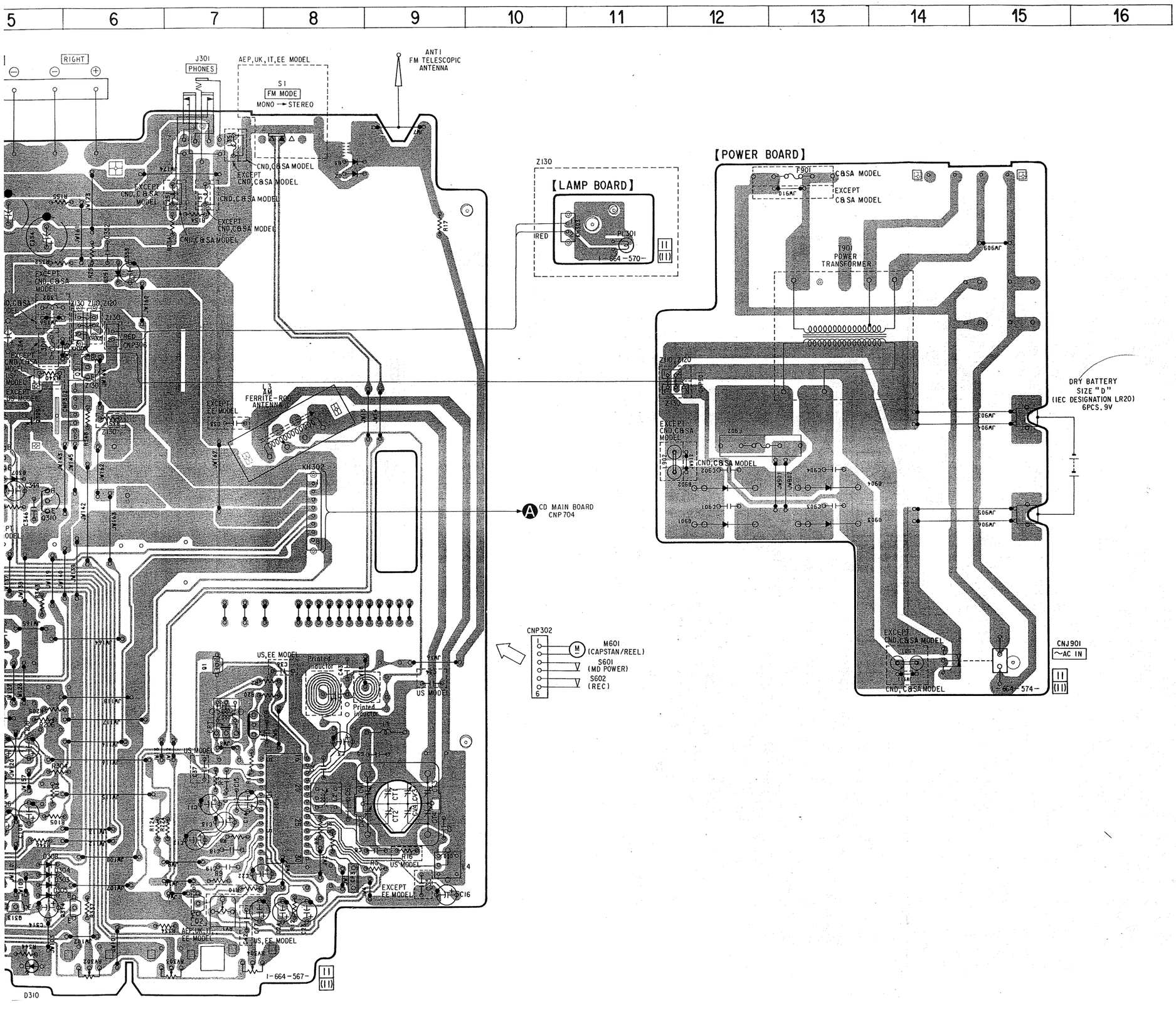
CFB-Z130

CNP302 6 1

M601 (CAPSTAN/REEL)

S602 S601 (REC) (MB POWER)


【MAIN BOARD】
【POWER BOARD】
【LAMP BOARD】
【SURROUND SW BOARD】
J302
SPEAKER OUTPUT
USE IMP: 3.2Ω
LEFT
RIGHT
J301
PHONES
AEP, UK, IT, EE MODEL
S1
FM MODE
MONO → STEREO
ANT1
FM TELESCOPIC ANTENNA
L3
AM FERRITE-ROD ANTENNA
Z130
PL301
I-664-570-
F901
T901
POWER TRANSFORMER
I-664-574-
CD MAIN BOARD
CNP704
CNP302
M601
(CAPSTAN/REEL)
S601
(MD POWER)
S602
(REC)
HRP901
(REC/PB)
HE901
(ERASE)
S301
FUNCTION
CD
FM
AM
RV301
VOLUME
I-664-567-
I-664-569-
SURROUND
ON
OFF
CND, C&SA MODEL
EXCEPT CND, C&SA MODEL
EXCEPT US MODEL
US MODEL
EXCEPT EE MODEL
US, EE MODEL
Printed Inductor



● SEMICONDUCTOR LOCATION

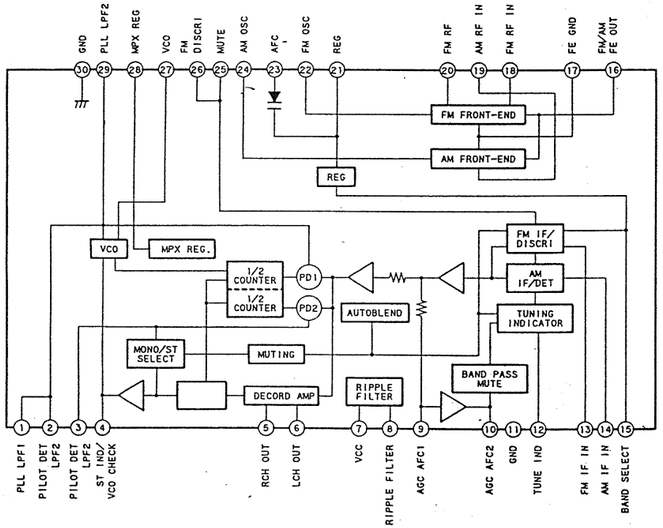
Ref. No.	Location
D2	B-8
D3	B-8
D301	G-5
D302	H-3
D303	I-5
D304	I-5
D305	I-5
D306	G-4
D307	E-5
D308	I-5
D309	E-5
D310	J-5
D311	D-4
D312	E-5
D351	C-6
D901	E-12
D902	E-12
D903	E-13
D904	E-13
IC1	H-8
IC301	H-4
IC303	F-3
IC304	D-4
Q1	G-7
Q2	I-7
Q101	E-3
Q201	D-3
Q301	H-3
Q302	I-3
Q303	I-3
Q304	H-3
Q305	H-3
Q306	H-3
Q307	E-5
Q308	E-5
Q309	D-5
Q310	E-5
Q311	D-6
Q312	I-3
Q313	I-5
Q314	I-6
Q315	F-5

Note:

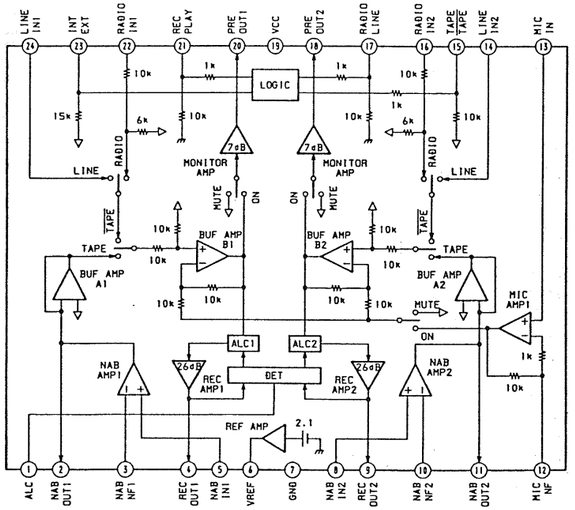
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- Abbreviation
  CND : Canadian IT : Italian

• IC BLOCK DIAGRAM –MAIN SECTION –

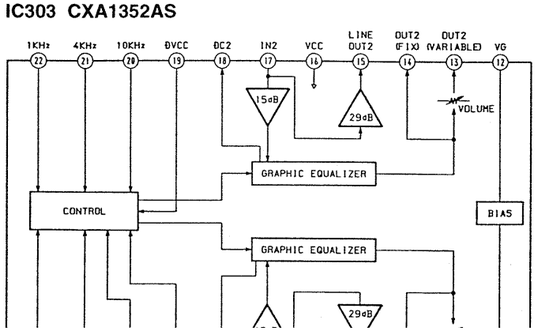
IC1 CXA1238S



IC301 TA2068N

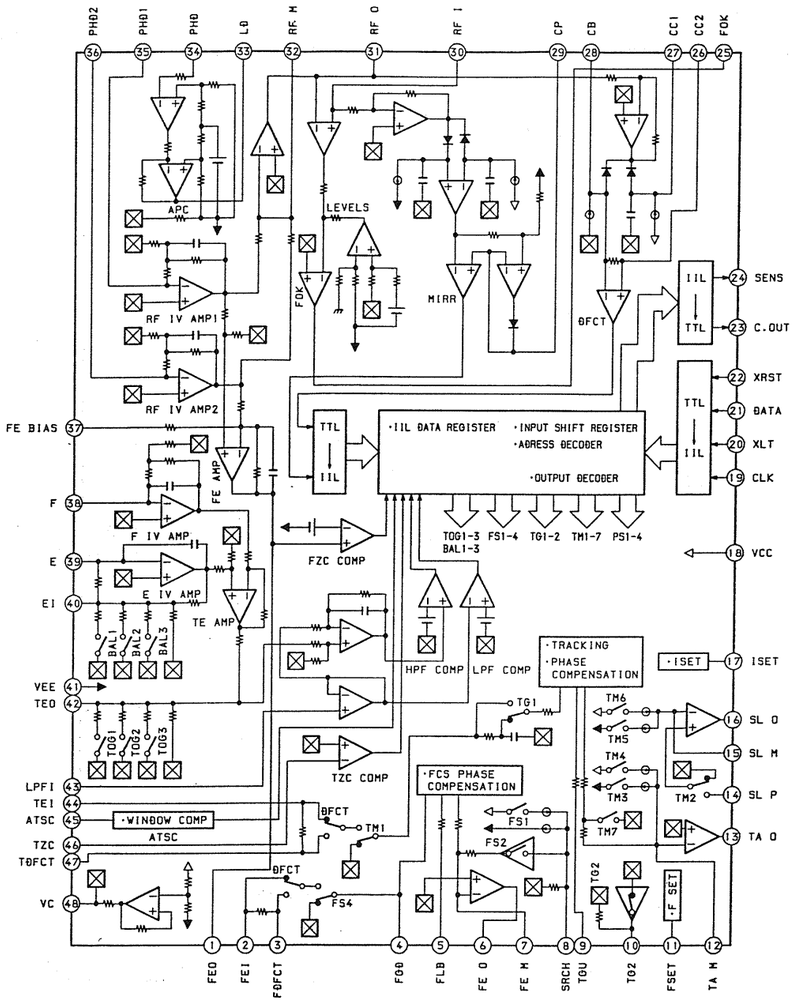


IC303 CXA1352AS

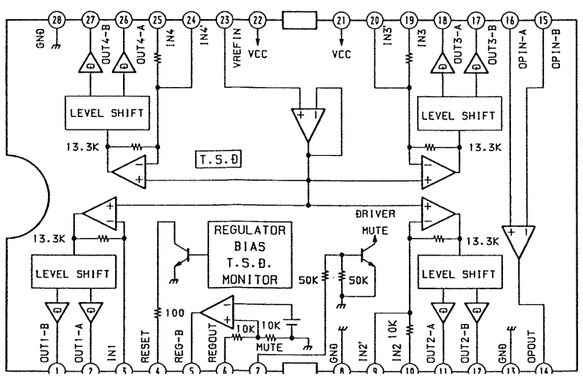


• IC BLOCK DIAGRAMS – CD SECTION –

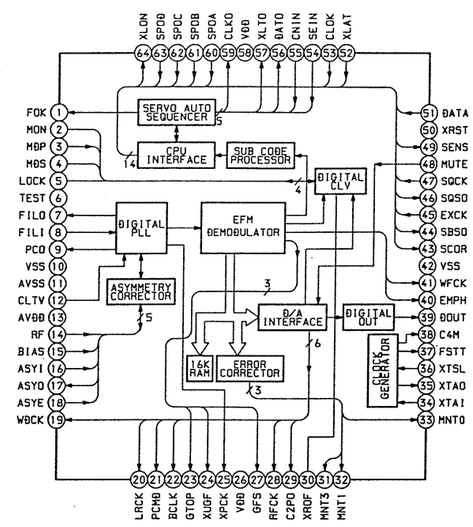
IC701 CXA1782BQ



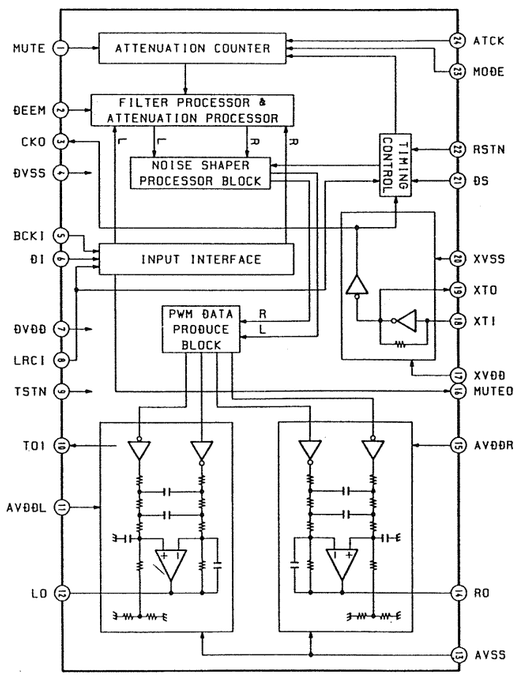
IC703 BA6198FP



IC702 CXD2507AQ



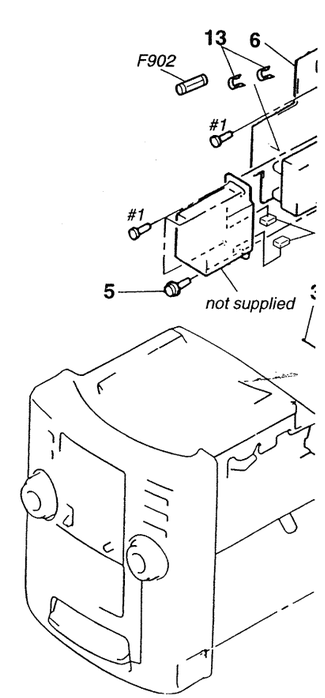
IC704 SM5877AM



NOTE :

- -XX, -X mean standardized parts, so they r have some difference from the original one.
- Items marked " * "are not stocked since they seldom required for routine service. Some de should be anticipated when ordering these ite

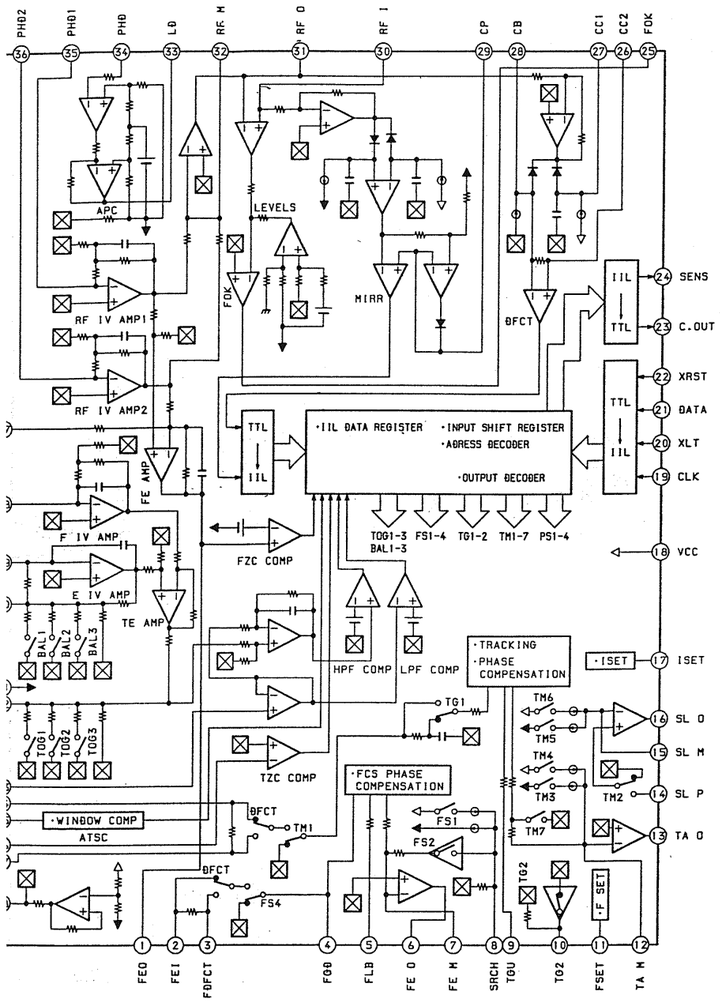
8-1. CABINET SECTION



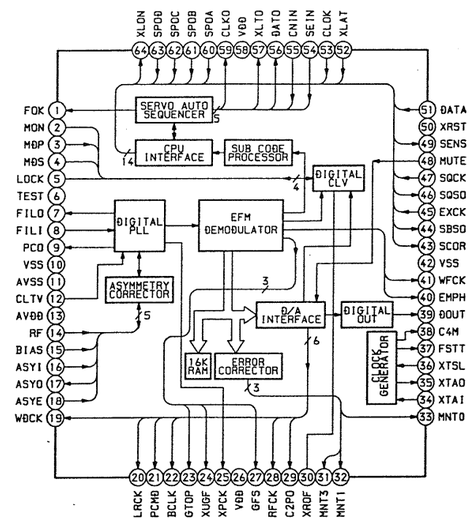
Ref. No.	Part No.	Description
1	3-010-679-01	SPRING (–)
2	3-010-682-01	TERMINAL, ANTEN
3	3-010-678-01	SPRING (+)
5	4-960-167-01	SCREW (3X8) (DIA
* 6	1-664-574-11	POWER BOARD
7	3-933-218-01	HANDLE
8	3-933-193-01	LID, BATTERY CAS
9	3-010-681-01	SPRING (±.B)
10	3-010-680-01	SPRING (±.A)
11	3-933-214-01	CABINET (REAR)

IC BLOCK DIAGRAMS – CD SECTION –

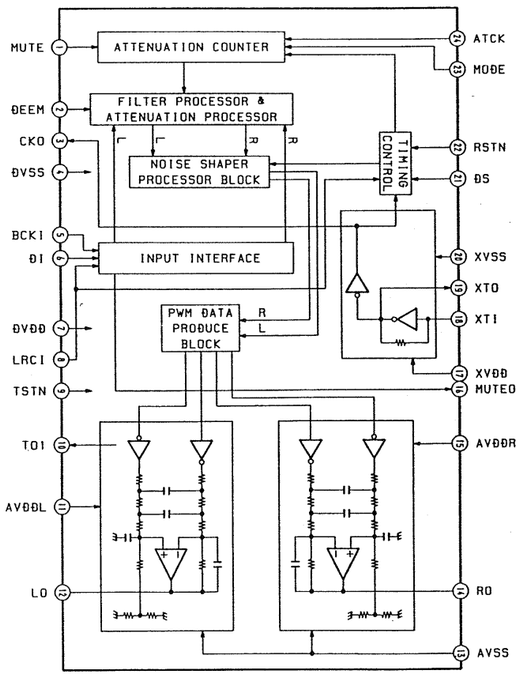
IC701 CXA1782BQ



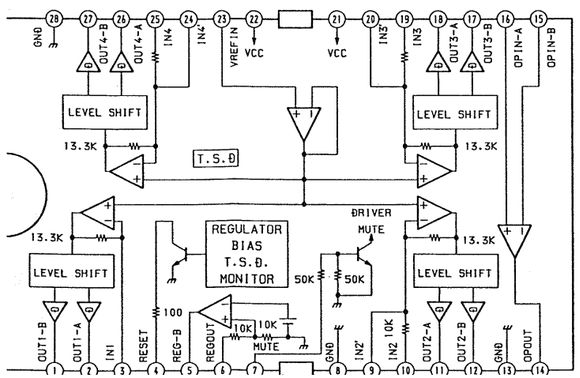
IC702 CXD2507AQ



IC704 SM5877AM



IC703 BA6198FP



SECTION 8
EXPLODED VIEWS

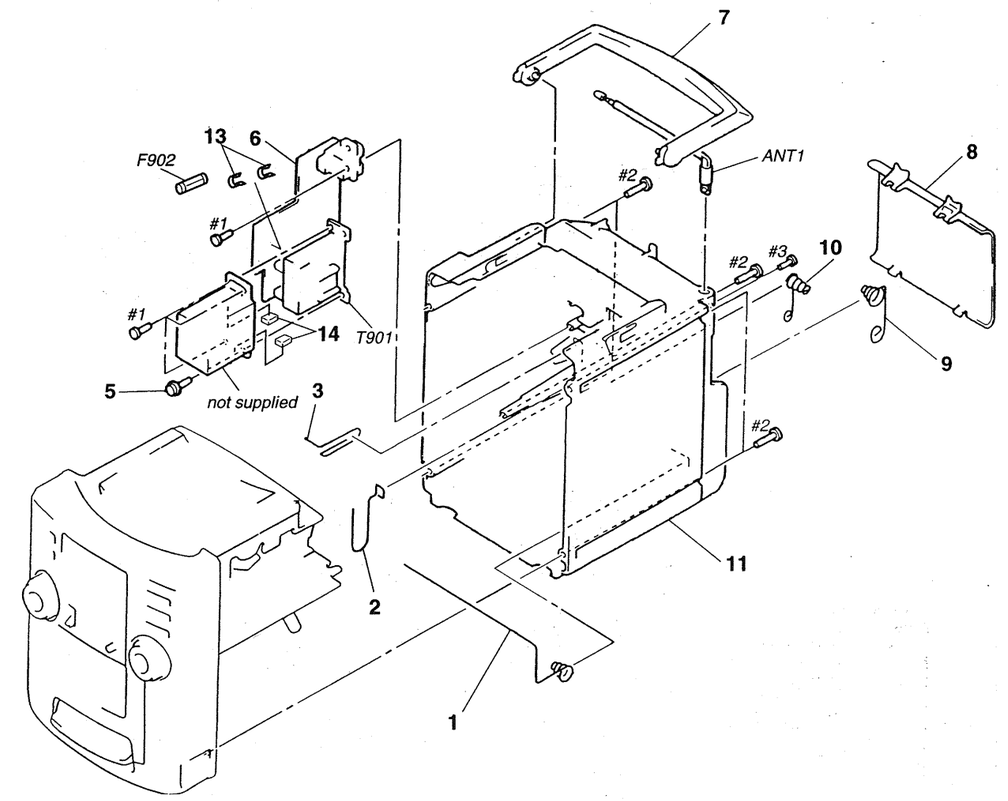
NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  CND : Canadian AUS : Australian
  IT : Italian EE : East European
  C&SA : Central and South America

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

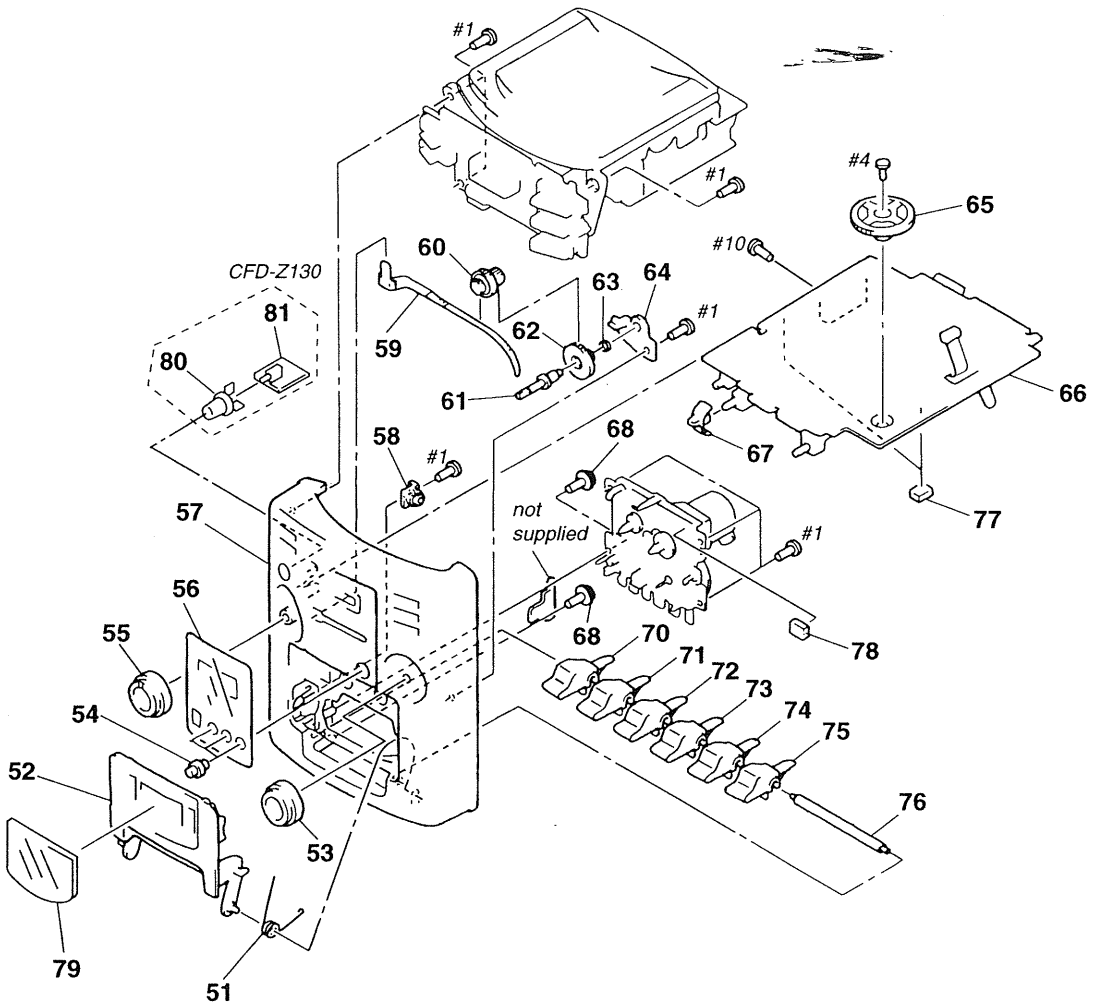
Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8-1. CABINET SECTION



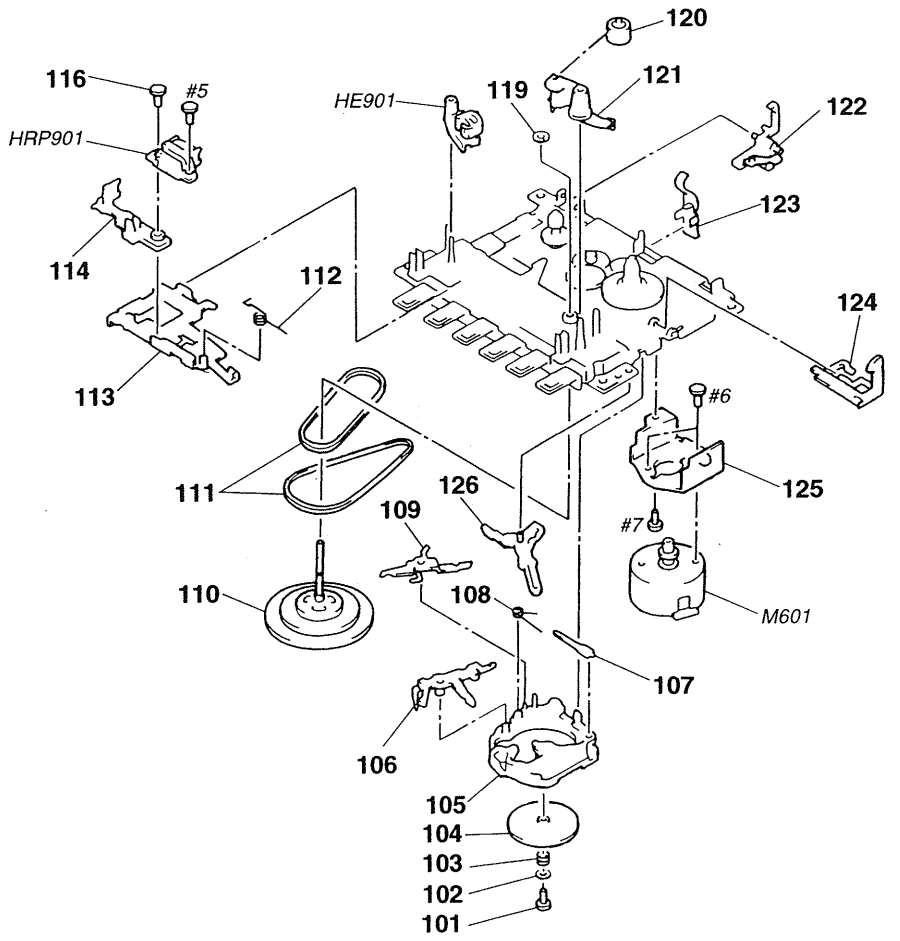
Ref. No.	Part No.	Description	Remark
1	3-010-679-01	SPRING (–)	
2	3-010-682-01	TERMINAL, ANTENNA	
3	3-010-678-01	SPRING (+)	
5	4-960-167-01	SCREW (3X8) (DIA. 10), +WH	
* 6	1-664-574-11	POWER BOARD	
7	3-933-218-01	HANDLE	
8	3-933-193-01	LID, BATTERY CASE	
9	3-010-681-01	SPRING (±.B)	
10	3-010-680-01	SPRING (±.A)	
11	3-933-214-01	CABINET (REAR) (Z110:US,CND,C&SA/ Z120:CND,C&SA/Z130:CND)	
11	3-933-214-11	CABINET (REAR) (Z110:AEP,UK,AUS/ Z120:US,AEP,UK,EE,IT /Z130:AEP,UK)	
11	3-933-214-21	CABINET (REAR) (Z130:US)	
13	1-533-217-31	HOLDER, FUSE	
* 14	3-561-427-21	CUSHION	
ANT1	1-501-362-11	ANTENNA, TELESCOPIC (FM)	
⚠F902	1-532-464-31	FUSE (T2.5AL/250V) (AEP,UK,AUS,EE,IT)	
⚠F902	1-533-618-11	FUSE, GLASS CYLINDERICAL (3.15A/250V) (US,CND,C&SA)	
⚠T901	1-431-121-11	TRANSFORMER, POWER (AEP,UK,AUS,EE,IT)	
⚠T901	1-431-120-11	TRANSFORMER, POWER (US,CND,C&SA)	

8-2. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
51	3-010-677-01	SPRING (CASSETTE)	
52	3-933-208-01	HOLDER, CASSETTE	
53	3-933-194-01	KNOB (TUNE)	
54	3-933-196-01	KNOB (EQ)	
55	3-933-195-01	KNOB (VOL)	
56	3-010-672-01	WINDOW (LCD) (Z110:US,CND,C&SA)	
56	3-010-672-11	WINDOW (LCD) (Z110:AUS)	
56	3-010-672-21	WINDOW (LCD) (Z110:AEP,UK)	
56	3-011-751-01	WINDOW (LCD) (Z120:US,CND,C&SA/Z130:US,CND)	
56	3-011-751-21	WINDOW (LCD) (Z120:AEP,UK/Z130:AEP,UK)	
56	3-011-751-31	WINDOW (LCD) (Z120:IT)	
56	3-011-751-41	WINDOW (LCD) (Z120:EE)	
57	3-933-200-01	CABINET (FRONT) (Z110,120)	
57	3-933-200-11	CABINET (FRONT) (Z130)	
58	3-351-377-01	DAMPER	
59	3-933-192-01	POINTER	
60	3-933-190-01	GEAR (POINTER)	
61	3-933-191-01	SHAFT (TUNE)	
62	3-933-189-01	GEAR (TUNE)	
63	3-010-675-01	SPRING (TUNE)	
64	3-933-198-01	BRACKET (TUNE)	
65	3-933-207-01	GEAR (PVC)	
* 66	A-3306-326-A	MAIN BOARD, COMPLETE (Z130:US)	
* 66	A-3306-332-A	MAIN BOARD, COMPLETE (Z110:US/Z120:US)	
* 66	A-3306-383-A	MAIN BOARD, COMPLETE (Z110:CND,C&SA/Z120:CND,C&SA)	
* 66	A-3306-386-A	MAIN BOARD, COMPLETE (Z130:CND)	
* 66	A-3306-502-A	MAIN BOARD, COMPLETE (Z130:AEP,UK)	
* 66	A-3306-505-A	MAIN BOARD, COMPLETE (Z120:IT)	
* 66	A-3306-506-A	MAIN BOARD, COMPLETE (Z120:EE)	
* 66	A-3306-507-A	MAIN BOARD, COMPLETE (Z110:AEP,UK/Z120:AEP,UK)	
* 66	A-3306-510-A	MAIN BOARD, COMPLETE (Z110:AUS)	
67	3-933-197-01	LEVER (FUNCTION)	
68	4-960-167-01	SCREW (3X8) (DIA. 10), +WH	
70	3-933-201-01	BUTTON (MD.REC)	
71	3-933-202-01	BUTTON (MD.PLAY)	
72	3-933-203-01	BUTTON (MD.REW)	
73	3-933-204-01	BUTTON (MD.FF)	
74	3-933-205-01	BUTTON (MD.STOP)	
75	3-933-206-01	BUTTON (MD.PAUSE)	
76	3-010-674-01	SHAFT (MD)	
* 77	3-010-684-01	SPACER (A)	
* 78	3-010-685-01	CUSHION (A)	
79	3-010-673-01	WINDOW (CASSETTE) (Z110)	
79	3-010-673-11	WINDOW (CASSETTE) (Z120)	
79	3-010-673-21	WINDOW (CASSETTE) (Z130)	
80	3-933-512-01	BUTTON (SURROUND) (Z130)	
* 81	1-664-569-11	SURROUND SW BOARD (Z130)	

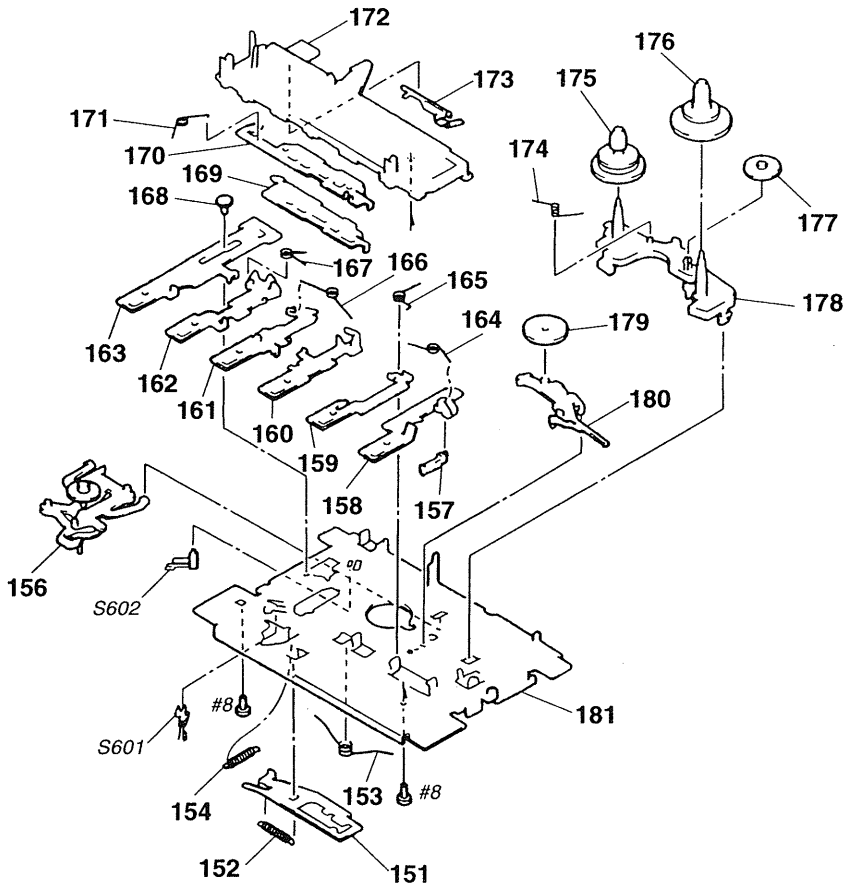
8-3. MECHANISM DECK SECTION-1
(MF-311)



Ref. No.	Part No.	Description	Remark
101	3-366-352-01	SCREW	
102	3-369-961-01	WASHER	
103	3-369-962-01	SPRING, COMPRESSION	
104	X-3363-315-1	GEAR, CAM	
105	3-362-973-01	AS (BASE)	
106	3-362-975-01	LEVER, SENSOR	
107	3-362-978-01	SPRING, PLATE	
108	3-362-977-01	SPRING	
109	3-362-976-01	LEVER, CONTROL	
110	3-362-979-01	FW ASSY	
111	3-362-989-01	BELT	
112	3-362-983-01	SPRING	
113	3-382-407-01	BASE HEAD	
114	3-382-409-01	GUIDE TAPE AZ	

Ref. No.	Part No.	Description	Remark
116	3-382-408-01	SCREW	
119	3-362-980-01	WASHER	
120	3-362-982-01	PINCH ROLLER	
121	3-362-981-01	PINCH ARM	
122	3-362-966-01	INTER LOCK	
123	3-362-967-01	SPRING, CASSETTE	
124	3-362-968-01	LEVER, EJECT	
* 125	3-362-988-01	HOLDER, MOTOR	
126	3-387-697-01	SENSOR	
M601	X-3365-538-1	MOTOR ASSY (CAPSTAN/REEL)	
HE901	1-500-031-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-543-964-12	HEAD,MAGNETIC(RECORD/PLAYBACK)	

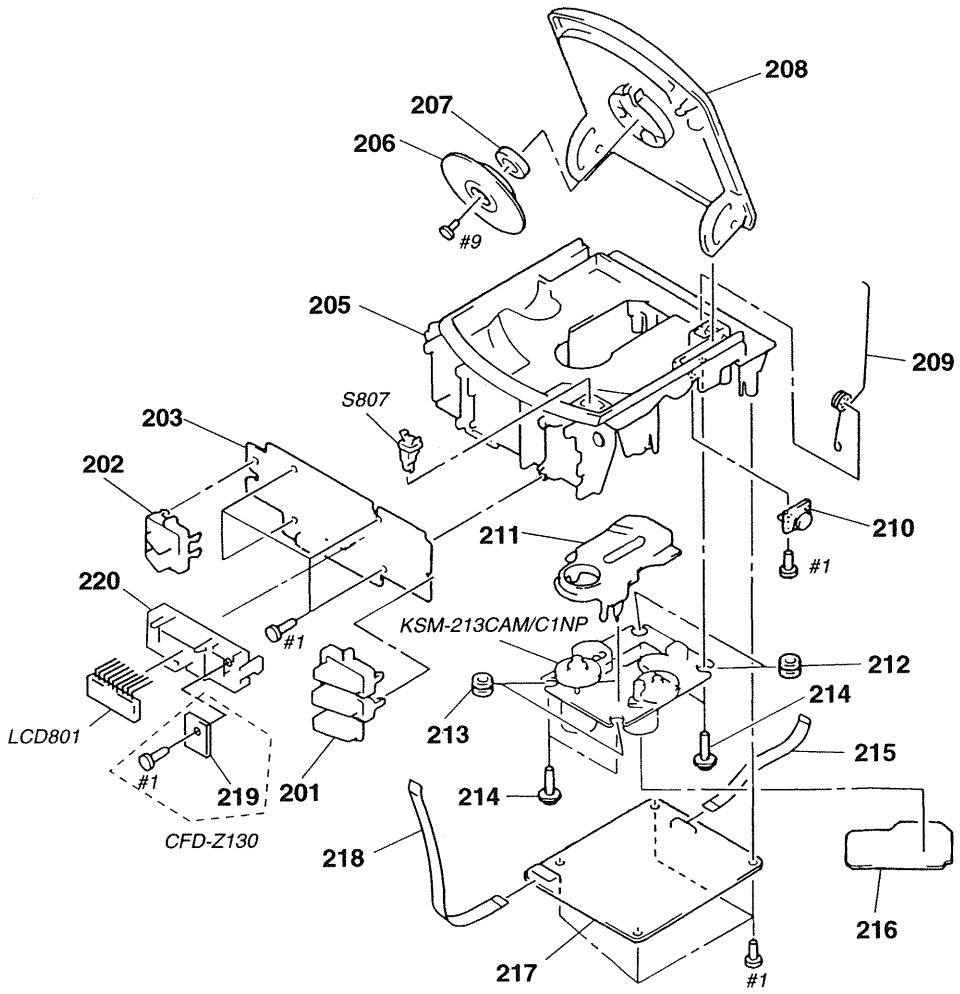
8-4. MECHANISM DECK SECTION-2
(MF-311)



Ref. No.	Part No.	Description	Remark
151	3-379-844-01	PLATE, STOP, FR	
152	3-379-843-01	SPRING	
153	3-362-970-01	SPRING	
154	3-362-971-01	SPRING	
156	3-362-969-01	IDLER ASSY, PF	
157	3-362-953-01	ARM, PAUSE	
* 158	3-362-952-01	LEVER, PAUSE	
* 159	3-362-951-01	LEVER, SE	
* 160	3-362-950-01	LEVER, FF	
* 161	3-362-949-01	LEVER, REW	
* 162	3-362-948-01	LEVER, PLAY	
* 163	3-362-947-01	LEVER, REC	
164	3-362-957-01	SPRING	
165	3-362-956-01	SPRING	
166	3-362-955-01	SPRING	
167	3-362-954-01	SPRING	

Ref. No.	Part No.	Description	Remark
168	3-362-958-01	SCREW	
* 169	3-362-946-01	LEVER, SW	
* 170	3-362-943-01	PLATE, FUNCTION	
171	3-362-945-01	SPRING	
172	3-362-942-01	FRAME ASSY	
173	3-362-944-01	STOPPER, REC	
174	3-917-805-01	SPRING	
175	X-3363-611-1	REEL, S	
176	3-362-962-01	REEL ASSY, T	
177	3-362-965-01	IDLER, FF	
178	3-362-961-01	SPINDLE (BASE)	
179	3-362-960-01	PULLEY, IDLER	
180	3-362-959-01	ARM, IDLER	
* 181	3-362-941-01	CHASSIS	
S601	1-571-556-11	SWITCH, LEAF (MD POWER)	
S602	1-571-556-11	SWITCH, LEAF (REC)	

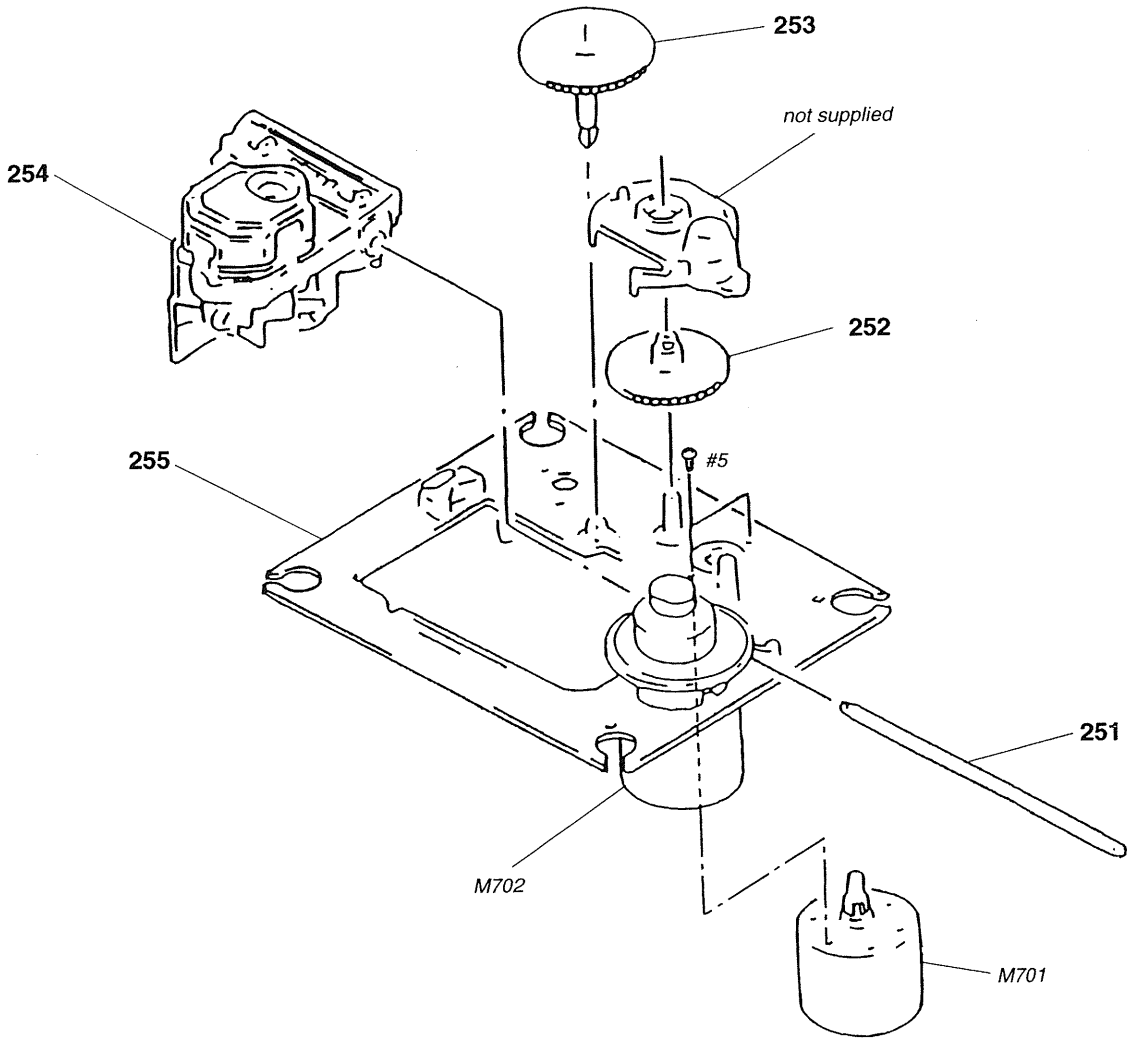
8-5. CD BLOCK SECTION



Ref. No.	Part No.	Description	Remark
201	3-933-217-01	BUTTON (B) (▶II / I◀◀ / ▶▶I / ■)	
202	3-933-216-01	BUTTON (A)	
* 203	1-664-568-11	CONTROL BOARD	
205	3-933-215-01	CABINET (UPPER)	
206	3-920-158-01	PLATE, CHUCKING	
207	1-452-732-11	MAGNET	
208	3-933-227-41	LID (CD)	
209	3-011-013-01	SPRING (CD)	
210	3-351-377-11	DAMPER	
211	3-923-736-01	COVER, CD	
212	3-910-095-01	RUBBER, VIBRATION PROOF (RED)	
213	3-910-095-11	RUBBER, VIBRATION PROOF (GREEN)	
214	3-921-725-01	SCREW (2.6X10), +PWH	

Ref. No.	Part No.	Description	Remark
215	1-776-512-11	WIRE, PARALLEL (FFC) (14 CORE)	
216	1-639-678-12	CD MOTOR BOARD	
* 217	A-3306-334-A	CD MAIN BOARD, COMPLETE (US)	
* 217	A-3306-385-A	CD MAIN BOARD, COMPLETE (CND,C&SA)	
* 217	A-3306-509-A	CD MAIN BOARD, COMPLETE (AEP,UK,AUS,EE,IT)	
218	1-769-828-11	WIRE (FLAT TYPE) (16 CORE)	
* 219	1-664-570-11	LAMP BOARD (Z130)	
* 220	3-010-683-01	HOLDER (LCD) (Z110,120)	
* 220	3-933-440-01	HOLDER (LCD) (Z130)	
LCD801	1-801-118-21	DISPLAY PANEL, LIQUID CRYSTAL (Z130)	
LCD801	1-801-118-11	DISPLAY PANEL, LIQUID CRYSTAL (Z110,120)	
S807	1-692-960-11	SWITCH, PUSH (1 KEY) (DOOR OPEN/CLOSE)	

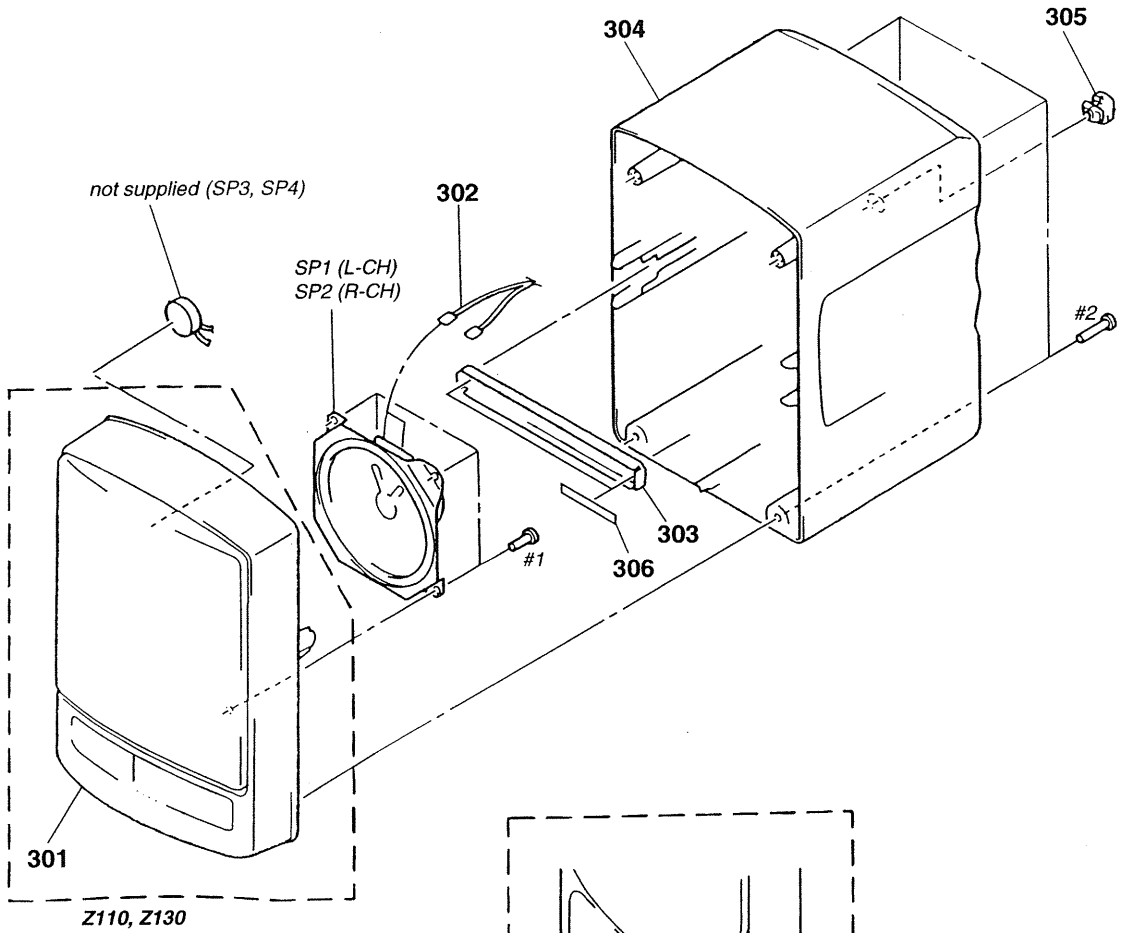
8-6. OPTICAL PICK-UP SECTION (KSM-213CAM/C1NP)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
251	2-626-908-01	SHAFT, SLED	
252	2-627-003-02	GEAR (B)(RP)	
253	2-626-907-01	GEAR (A) (S)	
⚠254	8-820-018-02	OPTICAL PICK-UP KSS-213C	
255	X-2625-770-1	CHASSIS ASSY (MB)(RP), MOTOR (INCLUDING M702) (SPINDLE)	
M701	X-2625-769-1	GEAR ASSY (MB) (RP),MOTOR (SLED)	

8-7. SPEAKER SECTION



Ref. No.	Part No.	Description	Remark
301	A-3311-243-A	CABINET (FRONT) (SPK) SUB ASSY (Z110,Z130)	
301	A-3311-249-A	CABINET (FRONT) (SPK) SUB ASSY (Z120)	
302	1-690-969-11	CORD, SPEAKER CONNECTION	
* 303	3-933-230-01	BRACKET (SPK)	
* 304	3-933-228-01	CABINET (REAR SP.L)	
* 304	3-933-232-01	CABINET (REAR SP.R)	
* 305	3-933-229-01	STOPPER, CORD	
306	3-831-441-11	CUSHION (F)	
SP1	1-504-548-21	SPEAKER (10cm) (L-CH)	
SP2	1-504-548-21	SPEAKER (10cm) (R-CH)	

SECTION 9
ELECTRICAL PARTS LIST

CD MAIN

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- Abbreviation
  CND : Canadian AUS : Australian
  IT : Italian EE : East European
  C&SA : Central and South America

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3306-334-A	CD MAIN BOARD, COMPLETE (US)			
*	A-3306-385-A	CD MAIN BOARD, COMPLETE (CND,C&SA)			
*	A-3306-509-A	CD MAIN BOARD, COMPLETE (AEP,UK,AUS,EE,IT)			
		**********			
		< CAPACITOR >			
C700	1-162-306-11	CERAMIC	0.01uF	20%	16V
C701	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C702	1-137-399-11	FILM	0.1uF	5%	50V
C703	1-137-399-11	FILM	0.1uF	5%	50V
C704	1-137-399-11	FILM	0.1uF	5%	50V
C705	1-131-375-00	TANTALUM	4.7uF	10%	10V
C706	1-130-489-00	MYLAR	0.033uF	5%	50V
C707	1-137-440-11	FILM	0.018uF	5%	50V
C708	1-162-199-31	CERAMIC	10PF	5%	50V
C709	1-126-962-11	ELECT	3.3uF	20%	50V
C710	1-137-375-11	FILM	0.068uF	5%	50V
C711	1-162-215-31	CERAMIC	47PF	5%	50V
C712	1-162-306-11	CERAMIC	0.01uF	20%	16V
C713	1-130-489-00	MYLAR	0.033uF	5%	50V
C714	1-162-306-11	CERAMIC	0.01uF	20%	16V
C715	1-130-489-00	MYLAR	0.033uF	5%	50V
C716	1-136-169-00	FILM	0.22uF	5%	50V
C717	1-104-664-11	ELECT	47uF	20%	10V
C718	1-124-907-11	ELECT	10uF	20%	50V
C721	1-137-374-11	FILM	0.047uF	5%	50V
C722	1-161-494-00	CERAMIC	0.022uF		25V
C723	1-137-399-11	FILM	0.1uF	5%	50V
C725	1-162-201-31	CERAMIC	12PF	5%	50V
C726	1-162-294-31	CERAMIC	0.001uF	10%	50V
C727	1-162-306-11	CERAMIC	0.01uF	20%	16V
C728	1-164-159-21	CERAMIC	0.1uF		50V
C729	1-104-664-11	ELECT	47uF	20%	10V
C730	1-124-472-11	ELECT	470uF	20%	10V
C731	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C732	1-162-306-11	CERAMIC	0.01uF	20%	16V
C734	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C737	1-162-294-31	CERAMIC	0.001uF	10%	50V
C738	1-164-159-21	CERAMIC	0.1uF		50V
C741	1-104-664-11	ELECT	47uF	20%	10V
C742	1-136-173-00	FILM	0.47uF	5%	50V
C743	1-162-290-31	CERAMIC	470PF	10%	50V
C744	1-162-286-21	CERAMIC	220PF	10%	50V
C745	1-136-169-00	FILM	0.22uF	5%	50V
C746	1-162-306-11	CERAMIC	0.01uF	20%	16V
C747	1-137-370-11	FILM	0.01uF	5%	50V
C752	1-162-203-31	CERAMIC	15PF	5%	50V
C753	1-162-203-31	CERAMIC	15PF	5%	50V
C754	1-104-666-11	ELECT	220uF	20%	10V
C755	1-137-399-11	FILM	0.1uF	5%	50V
C756	1-162-306-11	CERAMIC	0.01uF	20%	16V
C758	1-162-282-31	CERAMIC	100PF	10%	50V
C759	1-164-159-21	CERAMIC	0.1uF		50V
C760	1-104-666-11	ELECT	220uF	20%	10V
C763	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C764	1-126-963-11	ELECT	4.7uF	20%	50V
C773	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C774	1-126-963-11	ELECT	4.7uF	20%	50V
C780	1-164-159-21	CERAMIC	0.1uF		50V
C781	1-104-666-11	ELECT	220uF	20%	10V
C782	1-162-294-31	CERAMIC	0.001uF	10%	50V
C787	1-104-666-11	ELECT	220uF	20%	10V
C788	1-162-294-31	CERAMIC	0.001uF	10%	50V
C791	1-162-294-31	CERAMIC	0.001uF	10%	50V
C792	1-162-282-31	CERAMIC	100PF	10%	50V
C793	1-162-282-31	CERAMIC	100PF	10%	50V
C794	1-162-282-31	CERAMIC	100PF	10%	50V
C795	1-164-159-21	CERAMIC	0.1uF		50V
C796	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
CNP701	1-770-168-11	CONNECTOR, FFC/FPC 16P			
* CNP703	1-695-108-11	PIN, CONNECTOR (PC BOARD) 6P			
* CNP704	1-695-110-11	PIN, CONNECTOR (PC BOARD) 8P			
CNP706	1-750-231-11	CONNECTOR, FFC/FPC 14P			
		< DIODE >			
D701	8-719-991-33	DIODE 1SS133T-77 (US)			
		< IC >			
IC701	8-752-069-56	IC CXA1782BQ			
IC702	8-752-372-94	IC CXD2507AQ			
IC703	8-759-457-67	IC BA6198FP			
IC704	8-759-426-44	IC SM5877AM			
		< COIL >			
L713	1-410-750-41	INDUCTOR 0.47uH (EXCEPT CND,C&SA)			
L760	1-410-750-41	INDUCTOR 0.47uH (EXCEPT CND,C&SA)			
L770	1-410-750-41	INDUCTOR 0.47uH (EXCEPT CND,C&SA)			
		< TRANSISTOR >			
Q701	8-729-037-11	TRANSISTOR KTA1271Y-AT			

CD MAIN | CD MOTOR | CONTROL

Ref. No.	Part No.	Description			Remark
Q703	8-729-036-80	TRANSISTOR KRC110M-AT			
		< RESISTOR >			
R700	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-440-11	CARBON	82K	5%	1/4W
R702	1-247-896-11	CARBON	510K	5%	1/4W
R703	1-249-441-11	CARBON	100K	5%	1/4W
R704	1-247-883-00	CARBON	150K	5%	1/4W
R705	1-249-437-11	CARBON	47K	5%	1/4W
R706	1-247-876-11	CARBON	75K	5%	1/4W
R707	1-249-432-11	CARBON	18K	5%	1/4W
R708	1-247-883-00	CARBON	150K	5%	1/4W
R709	1-247-862-11	CARBON	20K	5%	1/4W
R710	1-249-393-11	CARBON	10	5%	1/4W
R714	1-247-883-00	CARBON	150K	5%	1/4W
R715	1-247-843-11	CARBON	3.3K	5%	1/4W
R716	1-249-430-11	CARBON	12K	5%	1/4W
R717	1-249-429-11	CARBON	10K	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R720	1-247-891-00	CARBON	330K	5%	1/4W
R722	1-249-439-11	CARBON	68K	5%	1/4W
R723	1-249-440-11	CARBON	82K	5%	1/4W
R725	1-249-437-11	CARBON	47K	5%	1/4W
R726	1-249-429-11	CARBON	10K	5%	1/4W
R727	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W
R731	1-247-863-91	CARBON	22K	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W
R734	1-249-437-11	CARBON	47K	5%	1/4W
R735	1-249-429-11	CARBON	10K	5%	1/4W
R740	1-247-843-11	CARBON	3.3K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-429-11	CARBON	10K	5%	1/4W
R743	1-247-903-00	CARBON	1M	5%	1/4W
R744	1-247-887-00	CARBON	220K	5%	1/4W
R745	1-249-429-11	CARBON	10K	5%	1/4W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R748	1-249-429-11	CARBON	10K	5%	1/4W
R749	1-249-429-11	CARBON	10K	5%	1/4W
R750	1-249-417-11	CARBON	1K	5%	1/4W
R751	1-249-429-11	CARBON	10K	5%	1/4W
R752	1-249-421-11	CARBON	2.2K	5%	1/4W
R753	1-249-429-11	CARBON	10K	5%	1/4W
R756	1-249-440-11	CARBON	82K	5%	1/4W
R757	1-249-439-11	CARBON	68K	5%	1/4W
R758	1-249-439-11	CARBON	68K	5%	1/4W
R759	1-249-439-11	CARBON	68K	5%	1/4W
R766	1-249-417-11	CARBON	1K	5%	1/4W
R776	1-249-417-11	CARBON	1K	5%	1/4W
R780	1-249-417-11	CARBON	1K	5%	1/4W
R781	1-249-417-11	CARBON	1K	5%	1/4W
R782	1-249-417-11	CARBON	1K	5%	1/4W
R787	1-249-417-11	CARBON	1K	5%	1/4W
R788	1-249-417-11	CARBON	1K	5%	1/4W
R791	1-247-843-11	CARBON	3.3K	5%	1/4W
R792	1-249-429-11	CARBON	10K	5%	1/4W
R793	1-249-417-11	CARBON	1K	5%	1/4W (US)
R794	1-249-417-11	CARBON	1K	5%	1/4W (US)
R795	1-249-417-11	CARBON	1K	5%	1/4W (US)
R796	1-249-417-11	CARBON	1K	5%	1/4W (US)
		< VARIABLE RESISTOR >			
RV701	1-230-497-11	RES, ADJ, CARBON 22K (FOCUS BIAS)			
RV702	1-230-497-11	RES, ADJ, CARBON 22K (FOCUS GAIN)			
RV703	1-241-783-11	RES, ADJ, CERMET 2.2K (E-F BALANCE)			
RV704	1-230-497-11	RES, ADJ, CARBON 22K (TRACKING GAIN)			
		< VIBRATOR >			
X701	1-760-793-11	VIBRATOR, CERAMIC (16.9344MHz)			
**********					
	1-658-023-12	CD MOTOR BOARD			
		**********			
		< CONNECTOR >			
CNP707	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
		< SWITCH >			
S701	1-572-085-11	SWITCH, LEAF (CD DET)			
**********					
*	1-664-568-11	CONTROL BOARD			
		**********			
	3-010-686-01	SHEET, DIFFUSION (Z130)			
*	3-010-683-01	HOLDER (LCD) (Z110,120)			
*	3-933-440-01	HOLDER (LCD) (Z130)			
*	3-933-463-01	PLATE (LCD), LIGHT GUIDE (Z130)			
		< CAPACITOR >			
C801	1-124-903-11	ELECT	1uF	20%	50V
C802	1-162-306-11	CERAMIC	0.01uF	20%	16V
C803	1-124-907-11	ELECT	10uF	20%	50V
C808	1-162-306-11	CERAMIC	0.01uF	20%	16V
		< CONNECTOR >			
CNP801	1-695-375-31	SOCKET, CONNECTOR (L TYRE) 14P			
		< IC >			
IC801	8-752-872-46	IC CXP5086H-681Q (Z120,130)			
IC801	8-752-872-47	IC CXP5084H-680Q (Z110)			
IC802	8-759-256-72	IC PST994D			
IC803	8-749-011-05	IC GP1U28X (PD) (Z120,130)			
		< LIQUID CRYSTAL DISPLAY >			
LCD801	1-801-118-21	DISPLAY PANEL, LIQUID CRYSTAL (Z130)			
LCD801	1-801-118-11	DISPLAY PANEL, LIQUID CRYSTAL (Z110,120)			
		< RESISTOR >			
R801	1-249-435-11	CARBON	33K	5%	1/4W
R802	1-249-435-11	CARBON	33K	5%	1/4W
R803	1-249-435-11	CARBON	33K	5%	1/4W

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S801	1-572-199-11	SWITCH, KEYBOARD (DISPLAY/ENTER)			
S802	1-572-199-11	SWITCH, KEYBOARD (PLAY MODE)			
S803	1-572-199-11	SWITCH, KEYBOARD (■)			
S804	1-572-199-11	SWITCH, KEYBOARD (▶▶I)			
S805	1-572-199-11	SWITCH, KEYBOARD (▶II)			
S806	1-572-199-11	SWITCH, KEYBOARD (I◀◀)			
**********					
*	1-664-570-11	LAMP BOARD (Z130)			
		**********			
		< CABLE, HOLDER >			
* KH303	1-573-287-11	HOLDER, CABLE 2P			
		< PILOT LAMP >			
PL301	1-517-480-11	LAMP, PILOT			
**********					
*	A-3306-326-A	MAIN BOARD, COMPLETE (Z130:US)			
*	A-3306-332-A	MAIN BOARD, COMPLETE (Z110:US/Z120:US)			
*	A-3306-383-A	MAIN BOARD, COMPLETE (Z110:CND,C&SA/Z120:CND,C&SA)			
*	A-3306-386-A	MAIN BOARD, COMPLETE (Z130:CND)			
*	A-3306-502-A	MAIN BOARD, COMPLETE (Z130:AEP,UK)			
*	A-3306-505-A	MAIN BOARD, COMPLETE (Z120:IT)			
*	A-3306-506-A	MAIN BOARD, COMPLETE (Z120:EE)			
*	A-3306-507-A	MAIN BOARD, COMPLETE (Z110:AEP,UK/Z120:AEP,UK)			
*	A-3306-510-A	MAIN BOARD, COMPLETE (Z110:AUS)			
		**********			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C2	1-162-306-11	CERAMIC	0.01uF	20% 16V	
C3	1-124-443-00	ELECT	100uF	20% 10V	
C5	1-162-206-31	CERAMIC	20PF	5% 50V	(US,CND,C&SA,AUS)
C5	1-162-196-31	CERAMIC	5.6PF	10% 50V	(EE)
C5	1-162-207-31	CERAMIC	22PF	5% 50V	(AEP,UK,IT)
C6	1-102-960-00	CERAMIC	24PF	5% 50V	(US,CND,C&SA,AUS)
C6	1-102-947-00	CERAMIC	10PF	5% 50V	(EE)
C6	1-102-961-00	CERAMIC	27PF	5% 50V	(AEP,UK,IT)
C7	1-162-197-31	CERAMIC	6.8PF	10% 50V	(US,CND,C&SA)
C7	1-162-199-31	CERAMIC	10PF	5% 50V	(IT)
C7	1-162-198-31	CERAMIC	8.2PF	10% 50V	(AEP,UK,AUS,EE)
C8	1-162-189-31	CERAMIC	1.5PF	20% 50V	(US,CND,C&SA)
C8	1-162-193-31	CERAMIC	3.3PF	10% 50V	(AUS,EE)
C8	1-162-191-31	CERAMIC	2.2PF	10% 50V	(AEP,UK,IT)
C9	1-162-306-11	CERAMIC	0.01uF	20% 16V	

Ref. No.	Part No.	Description			Remark
C10	1-162-306-11	CERAMIC	0.01uF	20% 16V	
C11	1-126-963-11	ELECT	4.7uF	20% 50V	
C12	1-124-903-11	ELECT	1uF	20% 50V	
C13	1-104-664-11	ELECT	47uF	20% 10V	
C14	1-124-443-00	ELECT	100uF	20% 10V	
C15	1-162-306-11	CERAMIC	0.01uF	20% 16V	
C16	1-126-961-11	ELECT	2.2uF	20% 50V	
C17	1-124-443-00	ELECT	100uF	20% 10V	
C18	1-161-053-00	CERAMIC	0.015uF	10% 50V	(US,CND,C&SA)
C18	1-162-839-11	CERAMIC	0.01uF	10% 16V	(AEP,UK,AUS,EE,IT)
C19	1-161-053-00	CERAMIC	0.015uF	10% 50V	(US,CND,C&SA)
C19	1-162-839-11	CERAMIC	0.01uF	10% 16V	(AEP,UK,AUS,EE,IT)
C22	1-124-903-11	ELECT	1uF	20% 50V	
C23	1-124-902-00	ELECT	0.47uF	20% 50V	
C24	1-126-963-11	ELECT	4.7uF	20% 50V	
C33	1-162-282-31	CERAMIC	100PF	10% 50V	(EXCEPT EE)
C34	1-162-294-31	CERAMIC	0.001uF	10% 50V	(US)
C35	1-162-282-31	CERAMIC	100PF	10% 50V	(EXCEPT EE)
C36	1-162-294-31	CERAMIC	0.001uF	10% 50V	(US,EE)
C37	1-162-294-31	CERAMIC	0.001uF	10% 50V	(US)
C42	1-162-294-31	CERAMIC	0.001uF	10% 50V	(US,EE)
C43	1-162-210-31	CERAMIC	30PF	5% 50V	(EXCEPT EE)
C43	1-102-965-00	CERAMIC	39PF	5% 50V	(EE)
C44	1-162-199-31	CERAMIC	10PF	5% 50V	(EXCEPT EE)
C44	1-162-203-31	CERAMIC	15PF	5% 50V	(EE)
C101	1-162-301-11	CERAMIC	0.0015uF	20% 16V	
C102	1-104-664-11	ELECT	47uF	20% 10V	
C103	1-161-020-11	CERAMIC	0.039uF	10% 16V	
C104	1-162-302-11	CERAMIC	0.0022uF	20% 16V	
C105	1-162-215-31	CERAMIC	47PF	5% 50V	
C106	1-124-902-00	ELECT	0.47uF	20% 50V	
C108	1-124-902-00	ELECT	0.47uF	20% 50V	
C121	1-126-233-11	ELECT	22uF	20% 50V	(Z130)
C122	1-124-903-11	ELECT	1uF	20% 50V	
C132	1-162-282-31	CERAMIC	100PF	10% 50V	
C133	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C134	1-126-963-11	ELECT	4.7uF	20% 50V	
C135	1-124-903-11	ELECT	1uF	20% 50V	
C151	1-104-664-11	ELECT	47uF	20% 10V	
C152	1-162-301-11	CERAMIC	0.0015uF	20% 16V	
C153	1-124-443-00	ELECT	100uF	20% 10V	
C154	1-124-473-11	ELECT	1000uF	20% 10V	
C155	1-130-495-00	MYLAR	0.1uF	5% 50V	
C156	1-162-282-31	CERAMIC	100PF	10% 50V	
C201	1-162-301-11	CERAMIC	0.0015uF	20% 16V	
C202	1-104-664-11	ELECT	47uF	20% 10V	
C203	1-161-020-11	CERAMIC	0.039uF	10% 16V	

MAIN

Ref. No.	Part No.	Description			Remark
C204	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C205	1-162-215-31	CERAMIC	47PF	5%	50V
C206	1-124-902-00	ELECT	0.47uF	20%	50V
C208	1-124-902-00	ELECT	0.47uF	20%	50V
C221	1-126-233-11	ELECT	22uF	20%	50V (Z130)
C222	1-124-903-11	ELECT	1uF	20%	50V
C232	1-162-282-31	CERAMIC	100PF	10%	50V
C233	1-162-294-31	CERAMIC	0.001uF	10%	50V
C234	1-126-963-11	ELECT	4.7uF	20%	50V
C235	1-124-903-11	ELECT	1uF	20%	50V
C251	1-104-664-11	ELECT	47uF	20%	10V
C252	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C253	1-124-443-00	ELECT	100uF	20%	10V
C254	1-124-473-11	ELECT	1000uF	20%	10V
C255	1-130-495-00	MYLAR	0.1uF	5%	50V
C256	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-104-664-11	ELECT	47uF	20%	10V
C302	1-104-666-11	ELECT	220uF	20%	10V
C304	1-124-472-11	ELECT	470uF	20%	10V
C305	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C306	1-126-233-11	ELECT	22uF	20%	50V
C307	1-162-294-31	CERAMIC	0.001uF	10%	50V
C311	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C312	1-104-664-11	ELECT	47uF	20%	10V
C313	1-130-481-00	MYLAR	0.0068uF	5%	50V
C314	1-124-907-11	ELECT	10uF	20%	50V
C316	1-126-963-11	ELECT	4.7uF	20%	50V
C331	1-124-443-00	ELECT	100uF	20%	10V
C332	1-126-963-11	ELECT	4.7uF	20%	50V
C333	1-126-961-11	ELECT	2.2uF	20%	50V
C334	1-162-851-11	CERAMIC	0.1uF	16V	
C341	1-126-937-11	ELECT	4700uF	20%	16V
C342	1-161-494-00	CERAMIC	0.022uF	25V	
C343	1-161-494-00	CERAMIC	0.022uF	25V	
C344	1-104-666-11	ELECT	220uF	20%	10V
C345	1-161-494-00	CERAMIC	0.022uF	25V	
C346	1-161-494-00	CERAMIC	0.022uF	25V	
C347	1-104-666-11	ELECT	220uF	20%	10V
C351	1-104-666-11	ELECT	220uF	20%	16V
C352	1-162-306-11	CERAMIC	0.01uF	20%	16V
C353	1-124-902-00	ELECT	0.47uF	20%	50V
		< FILTER >			
CF1	1-760-238-11	FILTER, CERAMIC			
CF3	1-760-238-11	FILTER, CERAMIC			
		< COMPOSITION CIRCUIT BLOCK >			
CFT1	1-239-724-11	ENCAPSULATED COMPONENT			
		< CONNECTOR >			
* CNP302	1-691-577-11	PIN, CONNECTOR (PC BOARD) 6P			
CNP304	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P			
* CNP306	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P (Z130)			
		< TRIMMER >			
CT1	1-151-696-11	CAP, VAR (US,CND,C&SA)			
CT1	1-141-493-12	CAP, VAR (EE)			
CT1	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)			

Ref. No.	Part No.	Description	Remark
CT2	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CT2	1-141-493-12	CAP, VAR (EE)	
CT2	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
CT3	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CT3	1-141-493-12	CAP, VAR (EE)	
CT3	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
CT4	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CT4	1-141-493-12	CAP, VAR (EE)	
CT4	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
		< VARIABLE CAPACITOR >	
CV1	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CV1	1-141-493-12	CAP, VAR (EE)	
CV1	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
CV2	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CV2	1-141-493-12	CAP, VAR (EE)	
CV2	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
CV3	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CV3	1-141-493-12	CAP, VAR (EE)	
CV3	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
CV4	1-151-696-11	CAP, VAR (US,CND,C&SA)	
CV4	1-141-493-12	CAP, VAR (EE)	
CV4	1-141-484-12	CAP, VAR (AEP,UK,AUS,IT)	
		< DIODE >	
D2	8-719-991-33	DIODE 1SS133T-77	
D3	8-719-991-33	DIODE 1SS133T-77	
D301	8-719-991-33	DIODE 1SS133T-77	
D302	8-719-991-33	DIODE 1SS133T-77	
D303	8-719-991-33	DIODE 1SS133T-77	
D304	8-719-991-33	DIODE 1SS133T-77	
D305	8-719-991-33	DIODE 1SS133T-77	
D306	8-719-991-33	DIODE 1SS133T-77	
D307	8-719-991-33	DIODE 1SS133T-77	
D308	8-719-991-33	DIODE 1SS133T-77	
D309	8-719-991-33	DIODE 1SS133T-77 (EXCEPT US)	
D310	8-719-060-14	LED L-1324HD-TNB5/7.8 (OPR/BATT)	
D311	8-719-109-98	DIODE RD6.8ES-B3	
D312	8-719-109-90	DIODE RD5.6ESB3	
D351	8-719-991-33	DIODE 1SS133T-77	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
IC301	8-759-264-71	IC TA2068N	
IC303	8-752-067-34	IC CXA1352AS	
IC304	8-759-820-22	IC LA4597	
		< JACK >	
J301	1-566-891-11	JACK	
J301	1-779-050-11	JACK (PHONES)	
J302	1-537-330-11	TERMINAL BOARD (SPEAKER OUTPUT)	
		< COIL >	
L1	1-406-998-11	COIL, AIR-CORE (EXCEPT EE)	
L1	1-409-776-11	COIL, AIR-CORE (EE)	
L2	1-422-230-11	COIL, AIR-CORE (US,CND,C&SA,AUS)	
L2	1-406-957-21	COIL (WITH CORE) (IT)	
L2	1-406-958-11	COIL (WITH CORE) (EE)	
L2	1-411-949-11	COIL, AIR-CORE (AEP,UK)	

Ref. No.	Part No.	Description	Remark
L3	1-501-906-11	ANTENNA, FERRITE-ROD (MW)	(US,CND,C&SA)
L3	1-501-913-11	ANTENNA, FERRITE-ROD (MW)	(AEP,UK,AUS,EE,IT)
L4	1-406-040-00	COIL (OSC)	
L151	1-410-501-11	INDUCTOR 2.2uH	(EXCEPT CND,C&SA)
L251	1-410-501-11	INDUCTOR 2.2uH	(EXCEPT CND,C&SA)
L301	1-410-397-21	FERRITE BEAD INDUCTOR	(EXCEPT CND,C&SA)
L302	1-410-397-21	FERRITE BEAD INDUCTOR	(EXCEPT CND,C&SA)
L351	1-410-501-11	INDUCTOR 2.2uH	(EXCEPT CND,C&SA)
		< TRANSISTOR >	
Q1	8-729-036-57	TRANSISTOR KRC101M-AT	
Q2	8-729-036-57	TRANSISTOR KRC101M-AT	(AEP,UK,EE,IT)
Q101	8-729-036-80	TRANSISTOR KRC110M-AT	
Q201	8-729-036-80	TRANSISTOR KRC110M-AT	
Q301	8-729-036-89	TRANSISTOR KTC3198GR-A	
Q302	8-729-036-86	TRANSISTOR KTC3203Y-AT	
Q303	8-729-036-86	TRANSISTOR KTC3203Y-AT	
Q304	8-729-037-29	TRANSISTOR KRA102M-AT	
Q305	8-729-036-57	TRANSISTOR KRC101M-AT	
Q306	8-729-036-57	TRANSISTOR KRC101M-AT	
Q307	8-729-037-11	TRANSISTOR KTA1271Y-AT	
Q308	8-729-036-57	TRANSISTOR KRC101M-AT	
Q309	8-729-021-82	TRANSISTOR 2SD2396K	
Q310	8-729-036-86	TRANSISTOR KTC3203Y-AT	
Q311	8-729-036-86	TRANSISTOR KTC3203Y-AT	(Z130)
Q312	8-729-036-86	TRANSISTOR KTC3203Y-AT	
Q313	8-729-037-29	TRANSISTOR KRA102M-AT	
Q314	8-729-036-57	TRANSISTOR KRC101M-AT	
Q315	8-729-119-78	TRANSISTOR 2SC403SP-51	
		< RESISTOR >	

Ref. No.	Part No.	Description			Remark
R2	1-249-421-11	CARBON	2.2K	5%	1/4W
R3	1-249-441-11	CARBON	100K	5%	1/4W
R5	1-249-429-11	CARBON	10K	5%	1/4W
R7	1-249-403-11	CARBON	68	5%	1/4W
R8	1-249-427-11	CARBON	6.8K	5%	1/4W
R9	1-249-427-11	CARBON	6.8K	5%	1/4W
R10	1-249-429-11	CARBON	10K	5%	1/4W (AEP,UK,EE,IT)
R12	1-249-421-11	CARBON	2.2K	5%	1/4W
R13	1-247-807-31	CARBON	100	5%	1/4W
R14	1-247-815-91	CARBON	220	5%	1/4W
R16	1-249-422-11	CARBON	2.7K	5%	1/4W (US)
R17	1-249-401-11	CARBON	47	5%	1/4W
R20	1-249-401-11	CARBON	47	5%	1/4W
R101	1-249-431-11	CARBON	15K	5%	1/4W
R102	1-249-404-00	CARBON	82	5%	1/4W
R103	1-249-441-11	CARBON	100K	5%	1/4W
R104	1-247-843-11	CARBON	3.3K	5%	1/4W
R105	1-249-435-11	CARBON	33K	5%	1/4W
R106	1-249-421-11	CARBON	2.2K	5%	1/4W
R108	1-249-429-11	CARBON	10K	5%	1/4W
R109	1-249-425-11	CARBON	4.7K	5%	1/4W
R110	1-249-417-11	CARBON	1K	5%	1/4W
R124	1-249-426-11	CARBON	5.6K	5%	1/4W
R151	1-249-429-11	CARBON	10K	5%	1/4W
R152	1-249-421-11	CARBON	2.2K	5%	1/4W
R153	1-247-807-31	CARBON	100	5%	1/4W
R154	1-247-807-31	CARBON	100	5%	1/4W
R155	1-247-895-91	CARBON	470K	5%	1/4W
R201	1-249-431-11	CARBON	15K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-247-843-11	CARBON	3.3K	5%	1/4W
R205	1-249-435-11	CARBON	33K	5%	1/4W
R206	1-249-421-11	CARBON	2.2K	5%	1/4W
R208	1-249-429-11	CARBON	10K	5%	1/4W
R209	1-249-425-11	CARBON	4.7K	5%	1/4W
R210	1-249-417-11	CARBON	1K	5%	1/4W
R224	1-249-426-11	CARBON	5.6K	5%	1/4W
R251	1-249-429-11	CARBON	10K	5%	1/4W
R252	1-249-421-11	CARBON	2.2K	5%	1/4W
R253	1-247-807-31	CARBON	100	5%	1/4W
R254	1-247-807-31	CARBON	100	5%	1/4W
R255	1-247-895-91	CARBON	470K	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W
R303	1-247-863-91	CARBON	22K	5%	1/4W
R304	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-399-11	CARBON	33	5%	1/4W
R312	1-249-435-11	CARBON	33K	5%	1/4W
R313	1-249-389-11	CARBON	4.7	5%	1/4W
R314	1-247-843-11	CARBON	3.3K	5%	1/4W
R315	1-247-843-11	CARBON	3.3K	5%	1/4W
R316	1-249-425-11	CARBON	4.7K	5%	1/4W
R319	1-249-441-11	CARBON	100K	5%	1/4W
R323	1-247-843-11	CARBON	3.3K	5%	1/4W
R324	1-249-417-11	CARBON	1K	5%	1/4W
R331	1-249-401-11	CARBON	47	5%	1/4W
R332	1-247-883-00	CARBON	150K	5%	1/4W
R333	1-249-435-11	CARBON	33K	5%	1/4W
R334	1-249-437-11	CARBON	47K	5%	1/4W
R337	1-249-429-11	CARBON	10K	5%	1/4W
R338	1-249-417-11	CARBON	1K	5%	1/4W
⚠R340	1-249-381-11	CARBON	1	5%	1/4W F (US)
R341	1-249-441-11	CARBON	100K	5%	1/4W
R342	1-249-419-11	CARBON	1.5K	5%	1/4W
R343	1-249-414-11	CARBON	560	5%	1/4W
R344	1-247-815-91	CARBON	220	5%	1/4W
R345	1-247-815-91	CARBON	220	5%	1/4W
R346	1-249-417-11	CARBON	1K	5%	1/4W
R347	1-247-807-31	CARBON	100	5%	1/4W
R348	1-249-417-11	CARBON	1K	5%	1/4W
R349	1-249-414-11	CARBON	560	5%	1/4W
R350	1-249-393-11	CARBON	10	5%	1/4W
R351	1-249-417-11	CARBON	1K	5%	1/4W (Z130)
R352	1-247-885-00	CARBON	180K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN | POWER | SURROUND SW

Ref. No.	Part No.	Description			Remark
R353	1-249-441-11	CARBON	100K	5%	1/4W (Z130)
		< VARIABLE RESISTOR >			
RV1	1-238-601-11	RES, ADJ, CARBON 22K (VCO)			
RV301	1-225-196-11	RES, VAR, CARBON 50K (VOLUME)			
RV302	1-223-644-11	RES, VAR, CARBON 50K (100Hz)			
RV303	1-223-644-11	RES, VAR, CARBON 50K (1kHz)			
RV304	1-223-644-11	RES, VAR, CARBON 50K (10kHz)			
		< SWITCH >			
S1	1-571-547-11	SWITCH, SLIDE (FM MODE) (AEP,UK,EE,IT)			
S301	1-571-345-11	SWITCH, LEVER SLIDE (FUNCTION)			
		< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR			
**********					
*	1-664-574-11	POWER BOARD **********			
	1-533-217-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF	50V	
C902	1-101-005-00	CERAMIC	22000PF	50V	
C903	1-101-005-00	CERAMIC	22000PF	50V	
C904	1-101-005-00	CERAMIC	22000PF	50V	
		< JACK >			
⚠CNJ901	1-526-838-11	INLET, AC 2P (~AC IN) (AEP,UK,AUS,EE,IT)			
⚠CNJ901	1-526-818-11	INLET, AC (~AC IN) (C&SA)			
⚠CNJ901	1-540-009-11	INLET, AC (~AC IN) (US,CND)			
		< CONNECTOR >			
* CNP901	1-691-574-11	PIN, CONNECTOR (PC BOARD) 3P (Z130)			
* CNP901	1-691-573-11	PIN, CONNECTOR (PC BOARD) 2P (Z110,120)			
		< DIODE >			
D901	8-719-031-53	DIODE LT2A02			
D902	8-719-031-53	DIODE LT2A02			
D903	8-719-031-53	DIODE LT2A02			
D904	8-719-031-53	DIODE LT2A02			
		< FUSE >			
⚠F902	1-532-464-31	FUSE (T2.5AL/250V) (AEP,UK,AUS,EE,IT)			
⚠F902	1-533-618-11	FUSE, GLASS CYLINDERICAL (3.15A/250V) (US,CND,C&SA)			
		< COIL >			
L901	1-410-397-21	FERRITE BEAD INDUCTOR (EXCEPT CND,C&SA)			
L902	1-410-397-21	FERRITE BEAD INDUCTOR (EXCEPT CND,C&SA)			
		< TRANSFORMER >			
⚠T901	1-431-121-11	TRANSFORMER, POWER (AEP,UK,AUS,EE,IT)			
⚠T901	1-431-120-11	TRANSFORMER, POWER (US,CND,C&SA)			
**********					

Ref. No.	Part No.	Description	Remark
*	1-664-569-11	SURROUND SW BOARD (Z130) **********	
		< CABLE, HOLDER >	
* KH304	1-565-384-11	HOLDER, CABLE 3P	
		< SWITCH >	
S302	1-571-832-21	SWITCH, PUSH (1 KEY) (SURROUND)	
**********			
		MISCELLANEOUS **********	
13	1-533-217-31	HOLDER, FUSE	
207	1-452-732-11	MAGNET	
215	1-776-512-11	WIRE, PARALLEL (FFC) (14 CORE)	
218	1-769-828-11	WIRE (FLAT TYPE) (16 CORE)	
⚠254	8-820-018-02	OPTICAL PICK-UP KSS-213C	
302	1-690-969-11	CORD, SPEAKER CONNECTION	
ANT1	1-501-362-11	ANTENNA, TELESCOPIC (FM)	
⚠F902	1-532-464-31	FUSE (T2.5AL/ 250V) (AEP,UK,AUS,EE,IT)	
⚠F902	1-533-618-11	FUSE, GLASS CYLINDERICAL (3.15A/250V) (US,CND,C&SA)	
HE901	1-500-031-11	HEAD, MAGNETIC (ERASE)	
HRP901	1-543-964-12	HEAD,MAGNETIC(RECORD/PLAYBACK)	
LCD801	1-801-118-21	DISPLAY PANEL, LIQUID CRYSTAL (Z130)	
LCD801	1-801-118-11	DISPLAY PANEL, LIQUID CRYSTAL (Z110,120)	
M601	X-3365-538-1	MOTOR ASSY (CAPSTAN/REEL)	
M701	X-2625-769-1	GEAR ASSY (MB) (RP), MOTOR (SLED)	
S601	1-571-556-11	SWITCH, LEAF (MD POWER)	
S602	1-571-556-11	SWITCH, LEAF (REC)	
S807	1-692-960-11	SWITCH, PUSH (1 KEY) (DOOR OPEN/CLOSE)	
SP1	1-504-548-21	SPEAKER (10cm) (L-CH)	
SP2	1-504-548-21	SPEAKER (10cm) (R-CH)	
⚠T901	1-431-121-11	TRANSFORMER, POWER (AEP,UK,AUS,EE,IT)	
⚠T901	1-431-120-11	TRANSFORMER, POWER (US,CND,C&SA)	
**********			
		ACCESSORIES & PACKING MATERIALS **********	
⚠	1-557-287-11	CORD, POWER (C&SA)	
⚠	1-590-147-11	CORD, POWER (US,CND)	
⚠	1-696-819-11	CORD, POWER (AUS)	
⚠	1-696-820-21	CORD, POWER (AEP,UK,EE,IT)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
*	3-704-293-01	BAG (STANDARD), PROTECTION	
	3-859-139-11	MANUAL, INSTRUCTION (EIGLISH) (US,CND,C&SA,AUS)	
	3-859-139-21	MANUAL, INSTRUCTION (FRENCH) (CND)	
	3-859-139-31	MANUAL, INSTRUCTION (ENGRISH,GERMAN) (AEP,UK,EE)	
	3-859-139-41	MANUAL, INSTRUCTION (FRENCH,SPANISH) (AEP)	
	3-859-139-51	MANUAL, INSTRUCTION (DUTCH,SWEDISH, PORTUGUESE) (AEP)	
	3-859-139-61	MANUAL, INSTRUCTION (ITALIAN) (IT)	
	3-859-139-71	MANUAL, INSTRUCTION (POLISH,RUSSIAN) (EE)	

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Ref. No.	Part No.	Description	Remark
	3-859-139-81	MANUAL, INSTRUCTION (SPANISH) (C&SA)	
	8-917-589-90	REMOTE COMMANDER,RMT-CZ130	(Z120,Z130)
	4-991-047-01	COVER,BATTERY (FOR REMOTE COMMANDER, RMT-CZ130) (Z120,Z130)	

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HARDWARE LIST
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#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
#3	7-682-548-09	SCREW +B 3X8	
#4	7-621-770-87	SCREW +P 2.6X5	
#5	7-685-781-09	SCREW +PTT 2X4 (S)	
#6	7-628-254-05	SCREW +PS 2.6X5	
#7	7-685-861-01	SCREW +BVTT 2.6X5 (S)	
#8	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT)	
#9	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#10	7-685-871-01	SCREW +BVTT 3X6 (S)	

9-923-146-11

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Personal A&V Products Company

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